A Lecture
ON THE
PATHOLOGY OF THE OBSTRUCTION OF THE CIRCULATION OF THE BLOOD IN THE LUNGS,
AND OF THE FAILURE OF THE HEART'S ACTION, WHICH ARE LIABLE TO OCCUR DURING THE ADMINISTRATION OF CHLOROFORM.

Delivered at University College Hospital on Thursday, January 20th, 1881,

BY WHARTON JONES, F.R.C.S., F.R.S.,
PROFESSOR OF OPHTHALMIC MEDICINE AND SURGERY IN UNIVERSITY COLLEGE, AND OPHTHALMIC SURGEON TO THE HOSPITAL.

GENTLEMEN,—Of all the various bodies the vapour of which has been administered by inhalation to produce insensibility to pain during the performance of surgical operations, ether, chloroform, and ethidene dichloride are those which have stood their ground best in the estimation of practitioners. Of these three anæsthetics chloroform has proved the most dangerous, and ether the least so. Leaving ethidene aside, I propose to confine my observations to the effect of inhalation of the vapour of chloroform and of ether on the blood in the vessels of the lungs, and on the action of the heart. As data, I take the facts recorded in the report by the Committee of the British Medical Association, recently published. And, first, I shall direct your attention to the phenomena which admit of being observed by direct inspection of the lungs and heart of frogs anæsthetised with chloroform and ether. But introductory to this let me briefly describe to you the phenomena of the pulmonary circulation in the water-newt and in the frog as observed under the microscope in the natural state. The lung of the water-newt is of simpler construction even than that of the frog, but the distribution of the vessels in its walls and the mode of circulation of the blood in them are similar. [Here a drawing was shown representing the vessels of the lung of the water-newt and of the frog, drawn from the life.]

The ramifications of the pulmonary artery occupy an external stratum of the wall, and the radicles of the pulmonary vein an internal stratum, while the capillary network is interposed between the two. Into this capillary network, occupying the intermediate stratum, the extreme arterial ramifications open, and from it the venous radicles arise. In thus opening into the capillary network, the extreme arterial ramifications subdivide abruptly, whilst by an equally abrupt union of capillaries the venous radicles have their origin. Viewing the circulation of the blood in the lung from the outside, we come, in adjusting the microscope, first on the streams in the small arteries, then underneath them, on the streams in the capillary network; and lastly underneath the latter, on the streams in the veins. The streams in all the vessels may, indeed, be seen under the adjustment for the capillary network; but with an objective one-eighth of an inch they are seen, each stream most distinctly, of course, under the adjustment for its own level. The width of the meshes of the capillary network varies somewhat according to the degree of distension of the lung with air. The pulmonary artery has thickish muscular walls; but in the course of my observations I never actually saw constriction of any of its branches occur, as we so often see in the case of the arteries of the frog's web. I have, however, seen arterial ramifications with their calibre already somewhat constricted here and there, while some presented their calibre rather wider than that of the trunk whence they sprang. At the extremity of the pulmonary sac the termination of the main trunk of the pulmonary artery was in one case dilated in a varicose manner at three different points. The pulmonary artery and its branches are accompanied by a nerve and its branches, in the same way as are the arteries of the frog's web. The walls of the pulmonary veins are not so thick as those of the arteries. Here and there the calibre of a vein might be seen slightly constricted, as if by the contraction of a muscular coat.

At the commencement of the sittings at which the particulars I have now described were noted I found the flow of blood in the vessels rapid and uniform. The white corpuscles were mingled together with the red in the streams, but towards the end of a sitting the circulation was observed to have become slower, and white corpuscles were seen to settle on the walls of the vessels—both arteries and veins—in small numbers. None were seen to escape from the interior by boring through the vascular wall, but I have seen extravasation by rupture. In an artery leading to capillaries which had become obstructed by congestion and stagnation of blood-corpuscles in their interior, the blood thereby arrested in its course was seen to oscillate to and fro rhythmically with the systole and diastole of the heart. This oscillating collection of blood, which consisted of a large proportion of plasma with few red corpuscles, but a considerable quantity of colourless corpuscles, accumulated on one side of the vessel, corresponds with those collections found in the truncated ends of divided arteries, and designated by the name of "internal clot."

To speak next of the frog's lung and the phenomena of the circulation of the blood in it. The frog's lung represents a sac on the inside of the wall of which there are small compartments formed by reduplications of the lining membrane. Externally the lung is mapped out into polygonal spaces which correspond to the parietal compartments, and are bounded by anastomosing bands composed of fibrous tissue enclosed within the reduplications of membrane which form the pulmonary walls. It is in these polygonal spaces of the pulmonary wall corresponding to the parietal compartments that we see the circulation going on in the capillary network. As in the lung of the water-newt, the arterial ramifications form an external stratum, and the venous radicles an internal stratum in the wall of the pulmonary sac, while the capillary network occupies an intermediate place. I have not observed in the frog's lung, any more than in that of the newt, constriction of the calibre of the arteries take place except in a slight degree. As in the lung of the water-newt, the flow of blood in the vessels of the frog's lung is rapid and uniform. The arteries and veins compared with those of the web of the animal's hind-foot appear fuller and more distended with red blood. A point to be particularly remarked in regard to the pulmonary circulation in both the newt and the frog is the great sensitiveness of the red corpuscles to the action of impure air, as manifested by the readiness with which they become aggregated and stagnant in the capillaries. This I long ago showed by blowing carbonic acid gas on the lung of a frog disposed under a microscope.[1] Obstruction of the pulmonary circulation, then, has its origin in the capillaries by aggregation and stagnation of the red corpuscles therein under exposure to the action of impure air.

In coming now to a consideration of the pathological phenomena which admit of being observed by direct inspection of the lungs and heart of anæsthetised frogs, it is to be premised that, while in mammiferous animals complete obstruction of the pulmonary circulation necessarily prevents any further affluence of blood to the left side of the heart, and thence to the system by the aorta and arteries, affluence of blood to the system is not necessarily so prevented in frogs; the reason being that the heart of the frog has only a single common ventricle into which the impure blood which the right auricle receives from the system and the pure blood which the left auricle receives from the lungs are poured. The impure and the pure blood thus received into the common ventricle are, in the natural state, there mingled, and the mixture is sent by its contraction, some back to the lungs by the pulmonary artery, and some to the system at large by the aorta. When the circulation through the lungs is completely obstructed in an asphyxiated frog, you thus see that, though no blood can be received from the lungs into the left auricle, the venous blood which is received from the system at large by the right auricle can pass therefrom into the common ventricle, from which cavity of the heart the blood is free to pass off by the aorta to the system, but cannot be propelled back into the obstructed vessels of the lungs.

Let us now endeavour to trace the correlations of the phenomena presented in an experiment on a frog subjected

[1] British and Foreign Medical Review for October, 1842.

to the influence of chloroform, described in the report under notice, and which was this: The frog being anæsthetised with chloroform until reflex action was suspended, it was so disposed that one of its lungs and the web of the right foot might be observed under a microscope. By means of a cannula introduced into the glottis, the lung was first inflated with pure air, and in this state the circulation in its walls was seen, on examination under the microscope, to be active. Air mixed with chloroform vapour was now introduced by artificial respiration through the cannula, whereupon the flow of blood in the capillary network was seen to become, first, less rapid, and then to cease. A few seconds after this the flow of blood in the arteries leading to the obstructed capillary network, and in the venous radicles coming from it, was found to have ceased also. This stoppage of the circulation in the lung I interpret thus. For want of due aeration of the blood, and perhaps by a special action of the chloroform also, the red corpuscles became aggregated and stagnant in the capillaries, so as to block them up—an effect similar to that produced by the direct action of carbonic acid gas on the lung of a frog, in the experiment to which I have before referred. Consequent on the progressive obstruction of the pulmonary circulation in the frog under chloroform, the heart no longer received aerated blood, and the venous blood which the common ventricle received from the right auricle passed off by the aorta into the systemic arteries, in which it was, however, feebly driven, in consequence of the impaired energy of the heart, now no longer supplied with pure blood. Soon after the stoppage of the circulation in the lung, stagnation of the blood in the capillaries of the web was found to have taken place. This, I consider, was owing to aggregation of the red corpuscles of the impure blood, favoured by the small degree of force with which it was now propelled through the system.

In continuation of the experiment under notice, artificial respiration with pure air was next employed, and in the course of eight minutes' time the contractions of the ventricle, which had fallen to four, were now increased to nine a minute. As a result of this increased rapidity of the heart's action, the blood, it is stated, was seen to begin to flow slowly in the larger vessels of the lung.

The real sequence of events in this case must, however, in my opinion, have been this: Under the influence of the pure air, the red corpuscles blocking up the capillaries of the lung by their aggregation, became less tenaciously adherent to each other and to the walls of the vessels, so that they admitted of being pushed on by the force of the heart, weakened though it was. Resolution of the congestion of the corpuscles of the blood in the capillaries thus tending to take place, the force of the heart proved sufficient to propel the blood somewhat onwards in the pulmonary artery. In proportion as the circulation in the lung was gradually becoming re-established in this manner, the power of the heart increased, and so the blood was propelled more and more freely through the vessels of the lung, and thence in a pure state to the heart, as well as to the system generally, until the circulation became fully re-established, as was found to be the case in twelve minutes more, at which time the systolic contractions had risen to fifteen in the minute. The artificial respiration thus did not operate directly on the heart, but operated first on the blood stagnant in the capillary network of the lung. Stagnation had continued in the capillaries of the web, but now the circulation was observed to become gradually re-established there also. This was, no doubt, owing to an action of the pure blood, which would now be driven onwards by the increased force of the heart, and of which the affluence to the capillaries would be permitted by a concurrent relaxation of the small arteries. The impaired activity of the heart, I have said, is owing to its not being supplied with pure blood. But the congestion and stagnation of the corpuscles in the capillaries of the lungs were not owing to the deficient power of the heart. As the full power of the heart was incapable of preventing the congestion and stagnation from taking place at the first, so in its impaired state it was still more incapable of driving onwards the blood-corpuscles, which by their aggregation had come to block up the vessels of the lungs, until by the access of pure air their adhesion to each other and to the walls of the capillaries became loosened.

In short, chloroform, when its administration proves fatal to a patient, appears to operate by first inducing stoppage of the circulation in the lungs in a manner similar to that in which carbonic acid gas operates when directly applied, as I have before stated. Failure of the heart takes place secondarily, in consequence of the interruption of the respiratory process; and, of course, if the heart be already morbidly weak, failure of its action will all the more readily take place for want of the circulation of pure blood in its walls.

From this it would seem a legitimate corollary that artificial respiration ought to precede the employment of any cardiac stimulant in a case of failure of the heart. But let it be repeated that this state of asphyxia is only gradually established, and that it is only in proportion to the obstruction of the blood in the lungs that failure of the heart's action at last takes place, the apparently sudden failure being the equivalent merely of the proverbial breaking of the camel's back by the last feather added to its burden.

The conclusion I have here deduced from the facts before me as to the occurrence of failure of the heart being subsequent to obstruction of the circulation in the lungs must be qualified if the opinion which I shall mention further on be well founded—viz., that the chloroform, with which the blood circulating in the coronary vessels in common with those of the system generally is impregnated, directly causes primary failure of the heart by paralysing its muscular power independently of any obstruction in the lungs.

I next come to the experiment on a frog subjected to the influence of ether as described in the report. The effect of ether was similar to that produced by chloroform, but the administration required to be kept up for a longer time before anæsthesia took place. In the experiment stagnation of blood-corpuscles was observed first in the capillary network, and after that stoppage of the flow of blood in the small arteries took place. Pure air being now administered by artificial respiration in substitution of the ether vapour, a flow of blood was seen to become re-established in the small arteries, and this indication of renewed activity of the heart, it is stated, was followed by dispersion of the congestion in the capillary network. But here, again, I have no doubt that, as before remarked in reference to the experiment with chloroform, the aggregation of the red corpuscles in the capillaries had first become loosened under the influence of the pure air. It was not until after the stoppage of the circulation in the lung that congestion and stagnation of blood were observed in the vessels of the web. And it was not until the circulation in the lung became re-established that the blood again flowed in the web. As was the case in the experiment with chloroform, obstruction of the pulmonary circulation was found to precede any diminution in the pulsations of the heart. This, again, shows that the stoppage of the flow of blood in the lung was not owing to primary impairment of the heart's action, but that it was dependent on stagnation of the blood-corpuscles in the capillaries of the lung, and that this arrestment of the respiratory process was the cause of the impairment of the activity of the heart. Though inhalation of a larger quantity of ether vapour than of chloroform vapour was required to produce anæsthesia, it was found that respiration with pure air more rapidly led to complete re-establishment of the circulation in the lungs under ether than when chloroform had been given. This and the fact that the heart did not become so much affected under ether, would seem to indicate that the circulation in the lungs did not become so much obstructed as it did under chloroform. The continued vigorous action under ether, which the heart is stated to have maintained, would, indeed, seem to indicate that in the case under consideration obstruction of the pulmonary circulation had not only not fully taken place, but that stimulation of the heart was caused by the ether which impregnated the blood circulating in its walls.

I now come to consider the effect of chloroform and ether on dogs and rabbits, as recorded in the report. One of the most striking effects of anæsthetic agents observed in the experiments on those animals was engorgement of the venæ cavæ and right cavities of the heart, indicating obstruction to the passage of blood through the vessels of the lungs. Under chloroform the respiration was very liable to become thus arrested, whilst the action of the exposed heart was found to cease soon after. By artificial respiration with pure air the action of the heart was resumed; but this was, no doubt, the effect of commencing re-establishment of the circulation in the lungs in the manner already contended for in the case of the frog. Under ether the action of the exposed heart was not, it is stated, found to be interfered with. This would indicate, as before observed, that the circulation in the lungs continued more or less free. In accordance

with this no engorgement of the veins and right cavities of the heart is particularly mentioned as having taken place. No doubt, however, more or less impure blood—impure both from defective oxygenation and from impregnation with the anæsthetic—was during this time circulating through both lungs and system, so that there existed a moderate degree of asphyxia. This suggests the question, Is anæsthesia owing simply to a state of asphyxia, or to a more special action of the anæsthetic in addition? As bearing on this question you will call to mind the well-known fact that inhalation of atmospherical air loaded with carbonic acid gas induces a state of insensibility.

In reference to these and other clinical questions the opinion of so experienced a practitioner as my colleague Mr. Clover is of the highest value and authority. He thinks that a state of anæsthesia may be produced independently of any obstruction of the circulation in the lungs, and that anæsthetics have a special action of their own on the nervous system, though a state of asphyxia may assist the operation of this action. As to failure of the heart under chloroform, Mr. Clover is of opinion that it may take place primarily, the *modus operandi* in this case being that the blood, impregnated with chloroform, in circulating through the substance of the heart, acts as a poison to its irritability. But he at the same time allows that the heart's substance, when as yet only partially affected by the paralysing influence of the chloroform, will succumb the more readily if obstruction of the circulation in the lungs supervenes. When obstruction in the lungs occurs during the administration of ether, the action of the heart fails less quickly than under chloroform. This Mr. Clover attributes to a stimulating action which the ether, impregnating the blood, exerts on the muscular substance of the heart.

To conclude, I have not here noticed the subject of the heart's force and blood-pressure as indicated by the hæmatodynamometer in dogs under the influence of an anæsthetic. My reasons for this are—first, that, practically, it does not concern us; and, secondly, that from a physiological point of view, the indications of the blood-pressure afforded by the instrument are not, I believe, so trustworthy as has been commonly supposed. The fact is that the calculations based on observations of the rise and fall of the column of mercury in the hæmatodynamometer have been made under the erroneous impression that the whole force of the heart's action bears upon the blood in the tube inserted in the artery experimented on, whereas a part only of the force is indicated, seeing that the principal part of the *vis a tergo* comes to bear on the current of blood which is now diverted into arterial channels nearer the heart. This is shown by the fact pointed out seventy-five years ago by Dr. J. F. D. Jones, in regard to the *vis a tergo* in an artery of some size, on which a ligature was applied. The stream of blood Dr. Jones found did not continue to be impelled against the closed extremity of the artery with the same degree of force as that with which it was driven in the vessel before it was tied. He observed that the stream of blood in the artery experimented on immediately turned aside into the collateral branches of the vessel higher up. To such a diversion of the *vis a tergo* what success has resulted from tying the artery on the distal side of an aneurism is, I believe, mainly owing. To this I have to add, that under the microscope we may see in a small artery leading to obstructed capillaries, or in one which has been divided, that the current of blood readily passes off in a collateral branch of the vessel situated higher up towards the heart. (This is shown in the drawing representing the "internal clot, in divided arteries of the bat and frog.) The force of the heart in this case evidently no longer acts strongly on the column of blood which occupies the artery below the collateral branch by which the stream passes off. The only indication of pressure by the *vis a tergo* here is the oscillation of the column of blood. This column of blood in an artery leading to obstructed capillaries, whether of the lung or web of the frog, or in the upper segment of a divided artery, which may be seen oscillating synchronously with the action of the heart, corresponds, as I before remarked, in respect to the nature of the conditions under which it thus presents itself, to what has been named the "internal clot" within the ends of divided arteries. It corresponds also, you will understand, to the column of blood in the hæmatodynamometer. By the systole of the heart the column of blood I am speaking of is pressed on, but progressive motion of it being prevented, the small amount of force from the heart to which it is subjected is expended, causing merely some distension of the vessel. On the supervention of the diastole of the heart a recoil of the column of blood takes place by the elastic reaction of the wall of the vessel. In the case of an experiment with the hæmatodynamometer, the rise and fall of the column of mercury corresponds to this oscillation with distension and collapse of the vessel.

It is, however, let me repeat, only a small degree of the force of the heart which is herein exerted. Higher up in the artery towards the heart, the stream of blood passes off by some large collateral branch, and it is there that the full force of the heart's systole is expended, a degree of force which is far from being indicated by the hæmatodynamometer.

ON THE NATURE AND SEQUENCE OF THE CARDIAC AND VASCULAR CHANGES IN INTERSTITIAL NEPHRITIS.

BY GEORGE JOHNSON, M.D., F.R.S.,
PROFESSOR OF CLINICAL MEDICINE, SENIOR PHYSICIAN TO KING'S COLLEGE HOSPITAL.

IN a paper on the above subject recently published in THE LANCET (Feb. 5th and 12th), Dr. Bryan C. Waller does me the honour to confirm the accuracy of my observations with regard to the hypertrophy of the middle muscular coat of the arterioles in the kidney and other tissues in cases of so-called "interstitial nephritis." It is satisfactory to me to find so able and industrious an observer as Dr. Waller amongst the numerous pathologists who, whilst differing as to the explanation of the phenomenon, admit the fact of a genuine muscular hypertrophy in this class of cases. Dr. Waller goes on to express his dissent from my statement that in the hypertrophied renal arterioles there is an inner longitudinal as well as an outer circular layer of muscular fibres. If he will do me the favour to refer to a paper of mine published in the *British Medical Journal* of May 25th, 1878, he will find that I no longer maintain that the inner longitudinal layer of fibres is muscular. The following is an extract from the paper referred to:—"All the characteristic specimens of renal arterioles in the form of disease under consideration (the small red granular kidney) show an inner longitudinal and an outer circular layer of fibres of nearly equal thickness. I formerly supposed that the inner longitudinal as well as the outer circular layer was muscular; but I am now convinced that the inner is the thickened elastic coat; and since this thickened inner layer has precisely the same structural appearance and arrangement as the elastic layer in the larger, but still microscopic, arteries, I cannot but look upon it as being thickened by a true hypertrophy or overgrowth of the normal tissue. And a probable explanation of the hypertrophy of the elastic inner tissue of the arterioles is to be found in the need for resisting the tendency to elongation of the arterioles by the injecting force of the hypertrophied left ventricle. The tortuosity of many of the hypertrophied renal arterioles shows that they have become more or less elongated by the injecting force of the heart, notwithstanding the increased thickness and strength of their longitudinal elastic tissue; and it can scarcely be doubted that, but for the strengthening of the elastic coat by this hypertrophic thickening, the elongation and tortuosity of the arterioles would be much greater than they are."

The thickening of the tunica intima in the hypertrophied renal arterioles is so constant and so uniform in its structural characters—in this respect differing entirely from syphilitic or tuberculous, or other undoubted pathological thickenings—and, as a rule, it bears so constant a relation to the hypertrophy of the muscular coat, that I cannot but look upon both as examples of a true physiological hypertrophy, as distinguished from an inflammatory or other pathological thickening. Dr. Waller, while admitting the anatomical fact of hypertrophy of the muscular walls of the arterioles, doubts my physiological explanation of the phenomenon, but has "no feasible exegesis of his own to offer." His explanation of the cardiac hypertrophy associated with advanced granular kidney is that it is a result of obstruction caused by "obliterative thickening of the tunica intima" of the systemic arterioles. With regard to this theory, I would

remark that it affords no explanation of what Dr. Waller admits to be the "inconvenient" fact of the muscular hypertrophy in the walls of the arterioles. And it also takes no account of the undoubted fact that in cases of acute renal disease, with uræmia, there is evidence of high arterial tension with increased cardiac action, phenomena which entirely pass away with the cessation of the renal disease. These facts admit of a complete physiological explanation by the theory of temporary over-action of the muscular arterioles ("arterial stopcocks"), excited through the vasomotor nerves by the influence of the morbid blood, as in chronic cases the continued over-action of the same arterioles results in hypertrophy of their walls and correlated hypertrophy of the left ventricle of the heart.

Savile-row, W.

OBSERVATIONS IN URINARY PATHOLOGY AND THERAPEUTICS.

BY C. H. RALFE, M.D. CANTAB., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE LONDON HOSPITAL.

(Continued from p. 189, vol. ii., 1880.)

III. CASES OF DIABETES INSIPIDUS CHARACTERISED BY AN EXCESSIVE ELIMINATION OF PHOSPHORIC ACID (THE SO-CALLED PHOSPHATIC DIABETES).

UNDER the terms Diuresis, Diabetes insipidus, Polyuria, and Polydipsia, writers have described a certain morbid condition of the system characterised by the excessive and persistent discharge of urine of low specific gravity—containing, however, neither sugar nor albumen. Most authors apply either of the above terms to denote this urinary superflux, without reference to the quantitative relationship that may exist in individual cases between the urinary water and solids. Others, of whom Willis[1] seems to have been the first, have attempted to form a classification on this basis. Thus Willis divided cases of diabetes insipidus into three groups: (1) those attended with excessive discharge of aqueous urine, in which the solid matters are deficient—*hydruria;* (2) those attended with a copious discharge of urine characterised by a deficiency of urea—*anazoturia;* and (3) those in which the excessive discharge of urine was attended with a superabundance of urea—*azoturia.* Parkes[2] also supported the view that diabetes insipidus was to be found existing under three different conditions—(1) In cases where there is no increase or decrease of tissue metamorphosis; (2) in cases where there is a decided decrease of tissue metamorphosis; (3) cases where there is evidence of increased tissue metamorphosis as shown by the increase of some of the urinary solids. To this latter class of cases Professor Parkes thinks the term polyuria preferable to that of azoturia, which only expresses the fact of the urea being increased; whereas in the cases quoted by him the fixed salts, as chlorides, sulphates, and phosphates, were also present in abnormal quantities. Lately Dr. Tessier[3] of Lyons has recorded a series of cases closely resembling saccharine diabetes, in the increased discharge of urine, the thirst, the neuralgic and rheumatic pains, the wasting, and the secondary lung complications, only that no trace of sugar could be found in the urine, and that the constant phenomenon was a very considerable increase in the quantity of phosphoric acid excreted (fifteen to twenty grammes of earthy phosphates in twenty-four hours). In some of Dr. Tessier's cases the urea was also eliminated in excess, but not in all, a fact which Dr. Tessier thinks serves to distinguish them from the cases originally described as "azoturia." Dr. Tessier has given the name "phosphatic diabetes" to this class of cases. He divides them into four groups—1. Those in which nervous symptoms are predominant. 2. Those which accompany pulmonary consumption. 3. Those which alternate with or co-exist with saccharine diabetes. 4. Those which run a distinct course resembling saccharine diabetes, but without sugar. As a few cases resembling in many respects those described by Dr. Tessier have come under my observation, although in none of them were the symptoms so marked or the excretion of phosphoric acid so considerable as in those described by him, I venture to think a brief account of them may be of some service in illustrating this interesting and obscure point in urinary pathology.

CASE 1. *Polyuria with increased excretion of phosphoric acid and urea; nervous symptoms.*—J. H——, aged sixteen, was admitted into the Seamen's Hospital July, 1876, in a stupid, semi-comatose condition, extremely feeble, and emaciated. Weight under 9st.; no great thirst; passing large quantities of urine of medium specific gravity, with trace of albumen; no sugar. No history of syphilis or injury to head. Analysis of the twenty-four hours' urine gave the following result:—

Quantity			2900 cc.
Specific gravity			1010
Earths } (phosphoric acid)	2·3	5·2 grammes.	
Alkalies } (phosphoric acid)	2·9		
Urea			51· grammes.

The lad remained in bed for several days in a dull, stupid condition, and then gradually brightened. The diuresis continued excessive during the whole period of his stay in hospital, the specific gravity ranging from 1010 to 1015. He was treated successively with large doses of valerian, with small doses of opium, with cod-liver oil and quinine. He improved greatly under treatment with regard to his general condition, but he was still polyuric when discharged. In this case the quantity of urine passed was about three times, the solids about double (calculated from the specific gravity), the phosphoric acid more than treble, and the urea rather more than double the normal for a lad of his age. In this case there was a decided increase of tissue metamorphosis, as evidenced by excessive excretion of urea and phosphoric acid, the latter especially. It comes under Dr. Parkes's third definition, and corresponds with the first group of Dr. Tessier.

CASE 2. *Polyuria; increased elimination of phosphoric acid; death; small syphilitic gumma at base of brain.*—T. G——, aged twenty-four, a patient of the late Dr. Murchison, came under my observation on August 24th, 1878, during Dr. Murchison's absence from town. The patient, a slight man weighing about 9 st., had been ailing four or five months; sight failing for a month, but has got rapidly worse during the last week; cannot now read or count fingers when held up. Passing large quantities of water; syphilis five years ago. Ophthalmoscopic examination only revealed slight fulness of veins. He was instructed to collect and measure urine, and bring some for analysis next visit.—August 28th: Patient much worse; complains of violent pain in head. Quantity of urine passed in the last twenty-four hours 9500 cc.; reaction neutral; sp. gr. 1004; phosphoric acid 6 grammes.—August 30th: Violent pain in head; now quite blind; as he required more care and attention than he could in his circumstances receive at home he was taken to St. Thomas's Hospital. Here, shortly after his admission, he became delirious, and then comatose, and died on September 2nd. I am indebted to the courtesy of the then house-physician for a note with regard to the condition of the brain, as found at the post-mortem examination: "A small syphilitic gumma, about half the size of a small hazel-nut, situate in the middle line under the floor of the third ventricle, obstructing some of the vessels at the base; some softening of the brain substance."[4]

CASE 3.—*Polyuria moderate; increased elimination of phosphoric acid; hypochondriasis; rheumatic pains in loins; emaciation.*—Out-patient, under my care at the London Hospital. First seen September 16th, 1880. A small but well-built man, aged twenty-five, weighing about 9st., employed on the East London Railway; attributes his illness to over-work. No history of syphilis. Temperate habits. Has a pale, anxious, haggard expression. States that he has been ailing some months, has lost flesh, and complains of a feeling of extreme nervousness and exhaustion, with frequent fits of trembling. Constant tearing pains in loins; often shooting round the pelvic region, with cramp-like spasms in lower parts of abdomen. No lightning pains, patellar-reflex unimpaired. Vision perfectly distinct. No apparent disease of abdominal or thoracic viscera. Digestion fairly good; bowels constipated. Urine pale, whey-like, of medium

[1] Robert Willis, M.D.: Urinary Diseases and their Treatment. London, 1838.

[2] Ed. Parkes, M.D., F.R.S.: The Composition of the Urine in Health and Disease.

[3] L. J. Tessier: Du Diabète Phosphatique. Paris: Baillière et Fils. 1877.

[4] This case was plainly one of hydruria, or diabetes insipidus, without increased tissue metamorphosis, the diuresis being a consequence of the cerebral lesion. The increase of the phosphoric acid (nearly treble the normal) is, I think, sufficiently accounted for by the large quantities of milk and beef-tea taken to quench thirst at that period of the illness when the analysis was made, and also to some extent to the washing out of the tissues by the drainage going on through the body.

BEST COPY AVAI

specific quantity; alkaline reaction; no sugar; no albumen. States that he passes more urine than he should, and is frequently disturbed at night to pass it. Instructed how to collect and measure it, and to bring a sample of the mixed twenty-four hours' urine at the next visit. The patient, however, did not comply with all the conditions necessary for accurate measurement, and it was not till Oct. 21st that I was satisfied that my instructions had been carefully carried out. By that time he had been five weeks under treatment (mineral acids and nux vomica), and had improved to some extent. Analysis of twenty-four hours' urine.—Oct. 21st: Quantity 2300 cc.; sp. gr. 1015; reaction alkaline. Phosphoric acid 5·8 grms., or nearly treble what it should be for a man of his weight. Ordered codeia pill, one-third of grain, and a mixture with bromide of potassium and nux vomica.—Nov. 18th: Very much improved; is gaining weight, feels stronger, has nearly lost the pains, discharge of urine still more abundant than it should be. To collect and measure it as before and bring a sample at next visit. To continue mixtures but to discontinue the codeia.—Nov. 25th: Analysis of urine: quantity 2300; sp. gr. 1015; reaction alkaline. Phosphoric acid 5·8 grms.; urea 33·5 grms.

CASE 4. *Excessive elimination of phosphoric acid; no polyuria; hypochondriasis; enormous quantities of calcium oxalate in urine.*—A gentleman's servant, aged twenty-seven. First came under observation September 28th, 1880. He is a thin spare man, weighing about eight and a half stone; of sallow, haggard complexion. No history of syphilis; habits temperate. Complains of aching pains, especially in the loins, shooting down the hips, and occasionally affecting the bladder and testicles. Alleged loss of virile power. Abdominal and thoracic organs apparently healthy. Digestion fair, bowels constipated. Feels very wretched and depressed. Urine passed at the time of visit (11 A.M.) acid; specific gravity 1028, containing eight grms. of phosphoric acid in 1000 cc. The secretion of urine, he said, was not excessive; he was rarely troubled during the day, but frequently at night with calls to micturate. (He was requested to collect and measure the urine for a few days, and send a note with regard to the quantity passed in the twenty-four hours; this proved to be just under two pints, or about 1100 cc.) The urine he passed in my presence deposited in a few hours an enormous quantity of oxalate of lime; no sugar; no albumen. Ordered codeia pill, a quarter of a grain, at night, and a mixture of hydrochloric acid in nux vomica and cod-liver oil.—Nov. 18th: Is much better. Less pain in loins. Not so despondent, though still fears he is impotent; confesses, however, to occasional manifestations of "his nature." To discontinue codeia and take phosphorus pills, one-sixtieth of a grain, instead. To collect urine for twenty-four hours and send it for examination.—Dec. 1st: Quantity 1520 cc.; sp. gr. 1022; urea 41·2 grms.; phosphoric acid 5·2 grms. Still under observation.

CASE 5. *Polyuria; increased elimination of phosphoric acid, co-existing with a mild form of glycosuria.*—A gentleman aged thirty-seven, who for the last eighteen months has suffered intermittently from a mild form of glycosuria, which did not apparently affect his general health, began in the autumn of the present year (1880) to suffer from constant aching, boring pains in the loins, shooting round the pelvic regions, with occasional cramp-like sensations in the bladder, and a tired, sore feeling in the muscles of the thighs and calves of the legs. He also became dispirited and hypochondriacal; began to lose weight and flesh. The amount of sugar passed had never been excessive, and had always been controlled by restricted diet. At this time he was certainly not passing more sugar than he had done in the earlier stage of his illness, and it again disappeared when he placed himself on restricted diet for a few days. Still, however, the pains and malaise continued.

On Oct. 12th the urine was collected for twenty-four hours, and subsequently on Oct. 14th and 15th, and Nov. 3rd, 21st, and 26th. On each occasion the amount of phosphoric acid present was estimated with the following results:

	Quantity.	Sp. gr.	Phosphoric acid.	Sugar.	Urea.
Oct. 12th	2020 cc.	1018	7·6 grms.	nil.	—
„ 14th	2300 cc.	1015	6·9 „	nil.	—
„ 15th	1520 cc.	1020	5·7 „	nil.	—
Nov. 3rd	2500 cc.	1012	7·5 „	considerable	—
„ 21st	2350 cc.	1019	8·2 „	„	—
„ 26th	2360 cc.	1018	4·6* „	„	60 grms.

* Phosphoric acid in combination with the earths, 2·1 grms.; with the alkalies, 2·5 grms.

The patient began taking codeia in half-grain doses at bedtime on the night of Oct. 12th, and continued to take it till Oct. 25th; it was then discontinued, as he was feeling better. On Nov. 3rd the pains, however, returned with considerable severity, and the codeia was resumed, but it was only taken occasionally up to Nov. 20th. Sugar also reappeared in the urine in more considerable amount than had been previously noted and continued till the patient left town. No special reason could be assigned for the reappearance of the sugar, as the diet was in no way different on the days of its reappearance than it had been during the period immediately preceding. That is to say, the diet had been restricted, with the exception of a small quantity of crust of bread taken with each meal. Grain doses of extract of opium were now given at bedtime till Dec. 4th, when the patient left town for a month's rest. During that time he took no medicine. Most of the holiday was spent at watering-places, where he bathed daily and made use of tepid saline douches; he also took a considerable amount of walking exercise. He returned to town, feeling better in every respect. He has regained his lost weight, and is now bright, cheerful, and hopeful. The pains in the loins and thighs still, however, trouble him occasionally. The urine (January 15th) on examination gave the following result. Quantity 1900 cc.; sp. gr. 1020; urea 66 grms.; phosphoric acid 3·8 grms.; no sugar.

(To be concluded.)

THE

MECHANICAL TREATMENT OF CROUPOUS MEMBRANE AFTER TRACHEOTOMY.

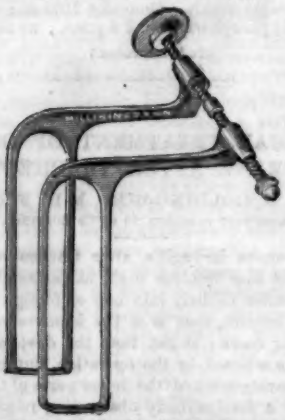
BY C. H. GOLDING-BIRD, M.B., F.R.C.S.,
ASSISTANT SURGEON TO GUY'S HOSPITAL.

IN membranous laryngitis, after tracheotomy has been performed, the case resolves itself, as far as the surgeon is concerned, almost entirely into one of foreign body in the trachea and bronchi, that is if the membrane has already reached so far down; if not, then the dyspnœa will be for the time quite relieved by the operation, but in due course the disease having reached the lower parts of the windpipe, symptoms of a foreign body obstructing respiration again appear. The remarks now made and the cases quoted are in illustration of a method of dealing with such a condition as that last named. Usually on the opening of the trachea a suitable silver tube is at once inserted, as much with the idea of stopping blood getting into the trachea as of relieving the dyspnœa. For some time after the child coughs up clots and blood-stained mucus, with perhaps some membrane, while the greatest anxiety is felt lest the tube should become blocked, and very careful cleansing by feathers, &c., has consequently to be carried out at very frequent intervals; and the patient often does not even then breathe satisfactorily. Such a mode of procedure is *mechanically* wrong, to say the least of it. Everything save air and a minute amount of mucus in the windpipe is a foreign body; and such are the blood and mucus, as well as the membrane, in every croup case. These can scarcely be expelled *viâ* the glottis, for that is already blocked by membrane, while the chances of their finding their way out through a lateral, rigid, and bent tube, the end of which hangs freely in the trachea, like the stem of a funnel in a wide-mouthed bottle, are very remote. If the tracheotomy tube were of the same calibre as the trachea itself, expectoration would be more easy; but it is not only smaller of necessity, but hangs (or should hang) freely in the lumen of the trachea, and with some degree of mobility. That blood and mucus—let alone the more solid membrane—will be readily forced by natural efforts exactly through the mouth of this tube is unlikely, clinical experience shows; and then these foreign matters collect around or below the tube and are sucked backwards and forwards for long before they hit the right path; while the futile efforts of a piece of membrane to make its exit is announced by a valve-like flapping noise, familiar to all who have had much to do with tracheotomy in croup.

Until therefore the trachea has been cleansed as far as possible from all foreign bodies, the tracheotomy-tube should not be inserted, but other means should be adopted to keep the tracheal wound patent. In eight cases during the last nine months I have acted upon this rule, employing at first

EST COPY AVAILABLE

the ordinary German nose speculum, as doubtless others have done, instead of a tracheotomy tube, the blades of the instrument being inserted into the tracheal wound, and then screwed open. Although fairly self-retaining, there were many reasons against its being perfect for the purpose, and so the tracheal dilator here figured has been designed. It is inserted, with the blades screwed together, into the trachea, the handle lying against the top of the sternum; on rapidly turning the screw the blades separate to the required extent, and their shape renders them self-retaining. If desired, tapes can be tied to the blades where they join their handles, and fastened round the neck, but this is not often requisite. The blades retain their parallelism even when fully open, as they do not work from a hinge, but travel along the double screw. This improvement of the screw over the hinge (which I first employed) was suggested to me by Mr. Lund of Manchester. The same sized dilator does for all cases, whether infants or adults. In any case it may take the place of a tracheotomy tube on an emergency, even when no foreign body has to be extracted. After tracheotomy in every case of membranous laryngitis two distinct mechanical



This instrument, as well as the brushes on steel wire, are made by Millikin and Down, St. Thomas's-street, S.E.

problems are presented to the surgeon:—(1) The establishment of a free passage through which membrane, &c. may be expelled by natural efforts; or, this failing, (2) its removal by artificial means. In either case, as a preliminary, a sufficiently free opening into the trachea must be made—five-eighths of an inch even in infants, and proportionately longer in older persons. This done, the following steps fulfil as nearly as possible the above requirements:—

(*a*) At once insert (with the left hand) into the tracheal wound the blades of a pair of dressing forceps, and then open them as widely as possible. Free expectoration of blood, mucus (and perhaps membrane) will follow, and these can be rapidly sponged from the lips of the wound. A clear passage being thus insured, expectoration and coughing are rapidly over and full inspiration restored, while all blood is brought up from the air passages within a few minutes.

(*b*) To determine the presence of membrane in the trachea (i. e., below the glottis) reflect a strong light into the wound from a mirror on the operator's forehead. If there is no membrane, the posterior wall of the trachea may be seen, pink and moist, and looking very much like the outer wall of the œsophagus. Small pieces of sponge held in dressing forceps can be used to clean it from bubbles of mucus. If healthy it may be taken for granted that there is no membrane below—the formation of membrane proceeding from above downwards. If an inspection be now made in an upward direction through the wound, membrane will perhaps be seen just entering the trachea from the larynx. The operator is at present below the obstruction.

(*c*) To maintain the tracheal opening patent, a tracheotomy tube can be now inserted, until evidence of membrane in the trachea is forthcoming; but supposing this stage now reached, or to have existed at the time of the operation, a tube is best dispensed with. Instead of dressing forceps or tube, insert the tracheal dilator into the trachea itself, not only into superficial tissues, and dilate until it holds firmly; the least possible opposition is thus offered to natural expulsive efforts.

An inspection of the trachea will now show either a layer of characteristic membrane or else the mucous surface will have lost its pink colour, be cloudy and white; when this is seen it may be taken as a sure sign of coming membrane. In cases where the membrane has been stripped off and the normal appearance as far as possible restored, this white cloudiness will be always a sure precursor of a fresh formation.

(*d*) To remove membrane if seen. If natural efforts have failed the surgeon should (lighted still by the mirror on forehead) remove with forceps (for example, aural polypus forceps) all that can be seen, or that is coughed up to the opening. Membrane may be now searched for below the wound. Minute pieces of sponge held in curved forceps, or feathers, can be passed down; but I prefer for this purpose a brush, like a rather large pipe cleaner, on strong but flexible steel wire. I at first used Maw's feeding-bottle brushes, but they are very liable to break, and therefore had the stronger ones made. Before use they should be put into hot water. They may be passed in a child three inches from the wound—that is, well into the first division of the bronchi, and if rotated sharply at the moment of retraction will detach and draw up often large pieces of membrane. When mucus rather than membrane obstructs, feathers and minute sponges are preferable. If the air passages are thus rendered free, the patient can be left again to the nurse with instructions to mop out frequently with small pieces of sponge, held in artery forceps, anything coughed up to the wound; and also, by reflected light, to pick out any visible pieces of membrane. At the same time the usual adjuncts of alkaline and other sprays should be employed. Hot flannels can be placed over the dilator. There is less anxiety to the surgeon now, for there is no tube to get blocked or to be cleaned by the nurse; for the dilator need never be touched even for days, and as the wound granulates it is imbedded and held more and more firmly. It is perfectly comfortable, and seems to give no pain; it causes no irritation, and except in one case, not under my care, where a small abrasion was seen after death of the mucous membrane of the trachea, it has left no mark of its presence. Automatic retractors for the soft parts, during the operation, are recommended by some; but to urge the systematic employment of tracheal dilatation instead of a tracheotomy tube, as long as any foreign body, of whatever kind, has to be got rid of, is the object of this communication.

While the chances of death from suffocation are by this means, I believe, much diminished, the use of the dilator does not seem to influence one way or the other the onset of pneumonia or pleurisy—the usually fatal terminations to croup. Of the eight cases already referred to, four died of pleurisy or pneumonia, two recovered, and two died with suffocative symptoms. Of these, one a girl aged two years and a half, showed on inspection the smaller tubes blocked with membrane, but the trachea and bronchi were quite free, having been cleansed during life and there having been no reformation of the membrane; the other, a boy aged five years, had had the upper air passages cleared of large casts on several occasions, the child each time being completely relieved of all symptoms; at last, however, all efforts to sponge or brush up membrane failed and the child died asphyxiated, the inspection showing a peculiarly adherent membrane in the trachea that required some force to tear off with forceps, while the tubes, both large and small, were lined with membrane of ordinary character and appearance.

The case appended illustrates the points above mentioned. A fatal case is taken that the post-mortem appearances may be noted. The only remarks on cases of recovery would be that the expectoration of membrane gradually gave place to one of muco-pus, and that in its turn to one of simple mucus; between these two last stages the dilator is removed for good.

CASE.—Julia W——, three years and a half old. First seen at 8 A.M. on Dec. 26th, 1880. Symptoms of dyspnœa for two or three days; now struggling for breath, and semi-cyanotic. Frothy expectoration. The child's general health, apart from its present attack, not good. Tracheotomy at once without an anæsthetic, and dressing forceps inserted into the wound and opened; blood and mucus freely expectorated. Two more rings now cut, and by reflected light a complete cast of the trachea seen, and removed with forceps. A few shreds of membrane were also brought up from below the wound with a feather and brush. Forceps now withdrawn, and tracheal dilator inserted, and the patient returned to her cot breathing comfortably. At

11 A.M. frothy mucus in the trachea was removed with a feather, and the nurse was provided with artery forceps to hold minute pieces of sponge, or to remove membrane, if any seen. At 6 P.M. the nurse reported membrane brought up on feather; so by reflected light the trachea was again examined, and much membrane removed with a feather and brush; some was coughed into view, and removed with forceps. Child was left breathing comfortably. Ordered carbonate of soda (three grains to one fluid ounce) as spray to trachea twice every hour, or whenever breathing became difficult. At 10 P.M. the child expectorated through the wound much muco-pus. On Dec. 27th, at 9 A.M., the same report; large tubes seem clear. At 4 P.M. the respiration was very rapid, and symptoms of pneumonia had developed since the morning, and at 7 A.M. on Dec. 28th the child died. Throughout the child had been in a tent, with steam, and had worn the dilator.

Post-mortem examination. — Basic pneumonia; membrane in all the smaller tubes; there was none in the trachea or larger bronchi; there was no mark to show where the dilator had been worn.

St. Thomas's-street, S.E.

ON THE

ANTIPYRETIC TREATMENT OF TYPHOID FEVER BY MEANS OF SODIUM SALICYLATE.

BY HENRY TOMKINS, M.D.,

MEDICAL OFFICER TO THE MONSALL FEVER HOSPITAL, MANCHESTER.

THE subject of the treatment of typhoid fever will doubtless by many be considered as one that has been threshed out over and over again without yielding results at all commensurate with the time and labour bestowed upon it; and perchance there are but few who have not come to the conclusion that whatever be the treatment adopted in this disease, whether most active or most passive, the general results obtained will be of very little practical difference. But whilst we have year by year a death-roll facing us of nearly 10,000 souls of every rank and condition of life, in this country alone, but little apology is needed for again bringing forward any treatment that offers a probable reduction in the above mortality.

At the present time the lines upon which our treatment of typhoid is laid down may be broadly stated as two—viz., the expectant or non-therapeutic, and the specific or active treatment, this latter having taken the form of a vigorous attack upon the pyrexia of the disease, which is looked upon, and justly so, as one of, if not the most important of all its attendant phenomena. For at the present day no man having any pretension to a rational knowledge of medicine would any more dream of conducting a case of typhoid fever without the constant use of his thermometer, than he would of diagnosing a lung affection without his stethoscope.

It has been truly said that 80 per cent. of all these cases need no medicinal treatment. In a sense this is true; but what about the remaining 20? For the former the "expectant" treatment is sufficient, but when we have to deal with the more severe minority, how helpless do we feel when we see the patient slowly drifting beyond the borderline of safety, the temperature steadily rising and maintaining a degree which, as we know all too well, cannot long be borne by the system without speedily inducing a fatal termination.

If, as is now generally held, all the so-called "zymotics" depend, as we have positive evidence some do, upon the presence within the body of a specific living poison, a true contagium vivum, having properties as distinct and powers of reproduction of its kind as perfect as any genera or species known to botanist or zoologist, then surely it is not an idea so very chimerical that we may have a specific remedy or antidote for each of these living toxic agents; and although I have no evidence to bring forward that sodium salicylate is a specific remedy, still we know that our most powerful agents for reducing the body heat are also powerful germicides and preventives of fermentation, quinine standing high on the list, and salicylate of soda still higher, 1 part in 20,000 of the latter sufficing to perfectly preserve saccharine fluids from fermentation, and to arrest the action of myrosin in mustard and other well-known fermentation processes. On this point also may be cited an experiment made last summer with the saliva of a rabid dog. Two others were inoculated from it, the one with saliva pure from the rabid animal, the other with the same to which 1000th part of salicylate was added. The former developed all the symptoms of a severe attack of rabies, and died on the thirteenth day; the other is still alive and well. And could we isolate the typhoid poison, or cultivate it apart from the body, as with some infective organisms, sodium salicylate would possibly prove a certain destroyer of that poison also. Therefore I would suggest only as a *possible* theory, as we know so little how it acts, that the antipyretic powers of this agent may be due to its power as a germicide; the more so as these properties are very much less seen in febrile action due to local inflammations, as pneumonia or pleurisy, than in those where we have ground for supposing some poisonous principle is circulating in the blood. But putting all theory aside and keeping solely to facts, and using it simply as a remedy for the treatment of a symptom in the typhoid process, the same as we would use styptics for hæmorrhage, alcohol for failing circulation, or sedatives for delirium, we have in it a means, and a most powerful one, of controlling the much-dreaded increased temperature of the body. And here we may briefly consider upon what rational grounds the employment of any antipyretic treatment is *à priori* to be advocated. In typhoid fever we have a disease for which we have no specific remedy that will abort or cut short its career, and all that lies within our power is to treat symptoms as they arise. Amongst its more dangerous manifestations is that of a long-sustained high temperature, which not unfrequently becomes the most important factor in our diagnosis, prognosis, and treatment. In the greater number of fatal cases (setting aside those due directly to hæmorrhage and perforation) the patients appear to succumb to the direct effects of the excessive febrile movement; and therefore, if we can with certainty guard against the deleterious influence of this pyrexia, we shall rob the disease of a great part of its terrors. It is undisputed that the rapid degenerative changes found throughout the body, in muscle, glands, and viscera, are due directly to the increased temperature, these changes being found in proportion to the height and duration of the pyrexia; but of even greater importance is the deleterious effect produced upon the heart, and through it upon the circulation and upon the central nervous system. This being so, surely any agent that offers itself as an available weapon with which to combat, if not the specific poison, yet one of its most serious manifestations, is deserving of a fair trial before it is declared to be found wanting.

Does therefore salicylate of soda offer any, and if so, what, advantages over the means more commonly used to reduce this temperature? Foremost stands at present the cold bath. Many and enthusiastic, especially on the Continent, have been the advocates of this method, but I make bold to say that in the typhoid of this country at least it is not a remedy upon which we can always rely, neither is it always safe; and, chief point of all, it is not capable, and never will be, of daily ordinary application. And as much of the treatment of typhoid is not conducted in hospital, but by the usual medical attendant, it practically is not possible, to say nothing of the prejudice of the patients' friends, to carry out this treatment in the manner that its advocates demand.

Again, even its most ardent supporters, such as Leibermeister of Tübingen, admit that it is not admissible in all cases, as it is apt where there is a high degree of cardiac weakness to induce fatal collapse. And the same authority says that, if he were restricted to the sole use of either the cold bath or quinine, of the two he would prefer the latter.[1] Quinine without doubt has large powers as an antipyretic, but the doses necessary for the full production of its effects are taken by patients with extreme loathing, and are exceedingly apt to produce nausea, vomiting, and serious disturbance of the stomach, to say nothing of the practical objection to its extensive use from its present high commercial value.

That sodium salicylate is a powerful agent, and one requiring skill and care in its administration, is at once admitted; its physiological effects are powerful and well

1 Vide Ziemssen's Encyclopædia, article Typhoid, p. 216.

marked. When given in full doses certain well-marked phenomena are observed—deafness, noise and ringing in the ears, a certain amount of restlessness, copious and rapid excretion by the kidneys, with usually a small amount of albumen in the urine. It is to be noted that no effect, or at most a very slight lowering, is produced upon a normal temperature, but very different is the case when we are dealing with a supra-normal temperature.

Although it is now matter of common experience that in the salicylates we possess the most powerful antipyretics to be found in the whole range of our therapeutic armamenta, yet it would appear that in this country at least these properties have in the treatment of typhoid been but little made use of. Even recently in the masterly address given by Sir W. Jenner on the treatment of this disease, alluding to salicylate of soda, he dismissed it with the remark, "it is said to reduce the temperature." In Germany it has been used, but chiefly in conjunction with other remedies, as quinine, digitalis, and concurrently with the use of the cold bath; and lately in France Dr. Hallopeau has given to the Société Médicale des Hôpitaux a favourable report of the results obtained by its use in a small number of cases treated by him solely with this remedy.[2] The number that I have treated with salicylate up to June, 1880, is forty-six, twenty-eight males and eighteen females, varying in age from seven to fifty-six years, the larger proportion being between fourteen years and thirty-five. They represent only the more serious cases received into this hospital, and are about one-third of the whole number admitted during the time over which the treatment extends. In no case was the soda given when the temperature in the axilla was below 102°. The general treatment, in addition to the special, may be summed up thus: perfect rest, milk diet, with small quantities of beef-tea, acid and opium when diarrhœa excessive, acetate of lead or turpentine, with iced injections, for hæmorrhage. Alcohol was never given unless the state of the circulation decidedly demanded it, except in the convalescent stages of some few cases in the form of wine. It should be noted that in the whole of these the temperature was taken every two or every three hours, night and day, whilst the salicylate treatment was being pursued, so that its effect hour by hour could be distinctly watched.

The routine practice has been this:—As soon as it was certain that there was a continuous temperature of more than 102° in the axilla, fifteen to twenty grains of the soda were given every two hours. This after about six doses usually reduced the temperature two to three degrees; if not, the same dose was continued a few more hours until it had done so, this seldom exceeding twenty-four hours from the commencement. The dose was then diminished one-half, and given every two or three hours, increasing it through the day if there was much tendency to exacerbation towards night-time. This was carried on for a period varying from three or four to nine or ten days, seldom exceeding the latter time, when the temperature would usually be fairly normal, with a little inclination to an evening rise in many cases for a few days after the salicylate was entirely discontinued. In most of the cases the usual physiological effects were observed, and in several alcohol was freely administered with the soda, in the form of brandy, whenever the pulse was feeble or the weakened action of the heart appeared to be becoming dangerous. *(To be concluded.)*

CORK FEVER HOSPITAL.—During last year 784 patients were under treatment, being an increase of 284, when compared with the number admitted in 1879. This increase was mainly due to the great prevalence of typhus, scarlatina, and typhoid fever. The mortality in the typhus patients amounted to fourteen per cent., which, deducting seven cases admitted in a hopeless condition, represents a mortality of only eleven per cent. The cases of scarlatina were mostly of a malignant type—the mortality being seven per cent. Cork was exempt from small-pox, which had prevailed in Dublin and other cities. An instance is given in the report in which a "wake" was held lately upon a person who died from typhus, and six cases were subsequently admitted to hospital who had attended that "wake." Since the year 1802, up to 1880, 114,213 persons were treated at this hospital, with a mortality of 6250, including 925 from Asiatic cholera, which averaged fifty per cent., and 150 from small-pox, with an average of twenty-two per cent., the total deaths from fever being but five and a half per cent.

[2] Gazette Hebdom., Août 20, 1880.

A CASE IN WHICH THE MASTOID WAS PERFORATED FOR SUPPURATION, WITH SATISFACTORY RESULT.[1]

BY SIMEON SNELL, L.R.C.P. LOND., &c.,
OPHTHALMIC SURGEON TO THE SHEFFIELD GENERAL INFIRMARY, AND TO THE SCHOOL FOR THE BLIND.

ON the 25th of June, 1879, I was asked to see in consultation with a medical friend the subject of the following remarks, and he has kindly furnished me with his notes.

The patient was a man aged about forty, and he had always enjoyed good health until April 21st, 1879, when he suffered from rheumatism or rheumatic gout in the left knee. About three weeks subsequently he experienced for the first time pains in the right ear, though he thinks he must have noticed that his hearing on this side was defective for some short period previously. The pain increased, and he tried a week at Matlock to see, as he expressed it, what change of air and scenery and absence from his employment would do for its relief. Still, however, becoming worse, in the early part of June (9th) he placed himself under the care of his medical attendant. The pain then appears to have been very severe, and of a neuralgic character, behind the ear, and extending over the side of the head and far down the neck. Chloral hydrate and bromide of potassium in combination afforded only temporary relief. By the 21st the intensity of his suffering had increased, the pain being particularly severe over the mastoid region, and, becoming worse at night, rendered sleep impossible. The treatment consisted in emollient and sedative applications to the painful part, and subsequently a blister was applied over the mastoid region. The mixture of chloral hydrate and bromide of potassium in increased doses was continued. Still, however, his condition became worse, the pain progressed in severity, and the paroxysms were getting now very intense, especially at night, and he suffered at times from delirium. Suppuration in the mastoid cells was suspected, and I was requested to see the patient, which I accordingly did.

On June 25th I found his condition to be as follows:—The pain he complained of was of a most violent and excruciating character, worse at some times than at others, and particularly so at night. It was chiefly situated over the mastoid region, but extended above over the head and below in the neck. He had had no sleep for several nights. There was also great swelling and puffiness over the mastoid, and the brawniness extended far down into the neck and up along the side of the head. There was a slight purulent discharge from the ear; this, however, he informed me, was of recent origin. The membrana tympani was perforated, and pus was seen in the tympanum. A watch, audible to the normal ear at about forty-six inches, was heard only on contact ($\frac{4}{12}$). The character of the pain, its situation, and the symptoms generally, led me readily to concur in the accuracy of the opinion already formed. It seemed evident, also, that an attempt, though an ineffectual one, was being made to get rid of the pus in the mastoid cells by its passing through the channel of communication between the cells and the tympanum, and from the latter cavity through the membrana tympani and meatus. The symptoms were, however, urgent, and seemed to demand interference. The propriety, therefore, of cutting through the brawny tissues over the mastoid process, and then opening the cells by a trephine, or otherwise, was discussed. The patient, however, expressed himself as somewhat relieved since the application of the blister the day before, and, in addition, the parts were still so vesicated that we decided to accede to his desire to wait a few days; and in the meantime the treatment suggested consisted of poultices over the affected region, the frequent cleansing the ear with warm water, and the administration of quinine and opiates. The relief he experienced, as was to be expected, if our diagnosis were correct, proved very transitory, and I accordingly saw him again on July 1st. The symptoms were then if anything aggravated, and the swelling over the mastoid was certainly more extensive. We decided to operate immediately. An incision was therefore made in the brawny integument over the mastoid two inches in length, and on cutting through the periosteum a little pus

[1] Read before the Leeds and West Riding Medico-Chirurgical Society.

escaped. A stout director was then introduced, and catching in a depression, a little pressure caused the bone to yield, and it was pushed on into the interior of the bone, and the opening enlarged by levering the director about in different directions. Pus now readily escaped, in quantity equal perhaps to half a teaspoonful or more. A poultice was directed to be applied, and care was also ordered to be taken to prevent the too rapid closure of the wound. I did not visit the patient after performing the operation, but heard of his immediate freedom from pain, his speedy convalescence, and of his soon being able to resume his occupation. In the early part of April, 1880, however, an opportunity was afforded me of again seeing him. He was then in perfect health—the perforation in the tympanic membrane was closed, and the hearing on this, the defective side, was much improved, the watch being audible at seventeen inches = ($\frac{17}{18}$).

Mastoid suppuration, or the minor affection, periostitis, is more frequently met with in connexion with chronic tympanic disease. In the present instance it assumed a more subacute form, and the patient was probably correct in assigning its cause to a metastasis of his gouty affection. The relation of gout to ear affections is referred to by Hinton, Kramer, and particularly by Harvey. Mastoid disease once set up becomes of serious importance, because, if neglected, septicæmia or pyæmia may prove the result. "An extension of the disease to the brain taking place either through the numerous foramina which transmit branches of the middle meningeal artery, or pus may be carried into the circulation through the mastoid vein which passes to the lateral sinus." Many of us must, however, have seen instances in which nature has herself relieved the disease, the evidence being in the sinuses and scars over the mastoid, especially in children. But the present case is, I believe, of interest and importance as exemplifying the good effects resulting from opening the mastoid when suppuration is diagnosed. It is merely the application of general surgical principles so frequently carried out in other regions.

The operation of trephining the mastoid was introduced two centuries ago. Doubtless it, and other procedures with the same object, are performed now more frequently than the scant reference to the subject in the general surgical works would lead one to suppose. In aural treatises its advantages are recognised, and finds amongst its supporters Hinton, Roosa, Troltsch, &c. Roosa puts it that this sound surgical procedure may be fairly said to be established in practice. Twenty-six out of thirty-four cases he refers to, as recorded by Buck, resulted in recovery.

Speaking also of this operation, Von Troltsch says: "It is now to be included among those operative measures which may be demanded by the 'vital indication,' and just as every conscientious surgeon under definite circumstances will feel himself compelled to open the larynx or to operate for hernia, just so urgent conditions occur when perforation of the mastoid process remains as the only possible means of saving life."

Sheffield.

SACCHARINE URINE IN CHRONIC ECZEMA.

By ROBERT LIVEING, M.D., F.R.C.P.,
PHYSICIAN TO THE DEPARTMENT FOR SKIN DISEASES AT MIDDLESEX HOSPITAL.

DURING several years past I have, as a matter of routine practice, tested the urine of all cases of obstinate eczema that have come under my care for sugar and albumen, and I find the presence of one or both very common. It is, however, the frequent presence of the former in the urine of those suffering from severe, obstinate eczema, to which I desire to call attention, and especially with reference to treatment.

One may say broadly that there are two principal and quite distinct groups of cases in which saccharine urine occurs—(1) we have diabetes in its graver forms, depending on profound nervous lesion; and (2) glycosuria, depending on defective assimilative processes, in which certain functions of the liver are especially at fault. It is only to the latter group that I wish to refer. The glycosuria which is met with in the latter half of life is neither uncommon nor always serious; it is, as I have said, apt to be associated with very irritable and obstinate eczema, and in women the saccharine urine acts in addition as a *local* irritant, and makes the eczema about the pudendum almost intolerable; indeed, excessive and intractable irritation in this region in middle-aged women is very commonly associated with sugar in the urine, and is often incurable as long as much sugar remains.

Now I come to the point to which I wish especially to draw attention, and that is that the eczema and the sugar in the above-named class of cases are mainly due to *over-feeding*. I use the term in its broadest sense, and include quality as well as quantity of food. I frequently meet with cases of intractable eczema pudendi in women past middle life, of sedentary habits, and eating three large meat meals a day, and trying by all means in their power to stimulate their appetite, under the erroneous impression that they are "keeping up their strength." Now, in these and similar cases, medicine and local treatment are almost equally useless, unless there is, at the same time, a thorough reform in the diet. The first point is to deprive the patients of sugar as an article of food, except just enough to make light puddings palatable. The reason for this is that much of the sugar passes the liver unchanged, and is therefore worse than useless as a food. The next point is greatly to reduce the animal food, especially mutton and beef, and to substitute for it simple clear soup, and poultry or fish in moderate quantity once a day. Lastly, the chief part of the daily diet should be made up of light farinaceous and milk food, such as bread, rice, and macaroni. This is, I know, contrary to the view often entertained, that saccharine urine should be treated by an animal diet, and that starch should be as much as possible excluded. Now, whatever good may result from such a diet in some cases, I am quite sure that it does not answer in those to which I refer; on the contrary, exactly the reverse holds, and the old routine practice, except so far as sugar is excluded, is quite wrong. I have seen the sugar disappear from the urine and the eczema depart under a change of diet such as I have above recommended. The truth is that many people at sixty, when the tissue changes are slow, eat as much or more than they did at twenty, when all the processes of change are at the height of their activity; what wonder then that unnatural work is thrown upon the skin, kidneys, and other excreting organs of the body. There is some substantial truth in the saying that small eaters live the longest.

Manchester-square, W.

ON CONGESTIVE DYSMENORRHŒA.

By G. ERNEST HERMAN, M.B. LOND.,
ASSISTANT OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL, PHYSICIAN TO THE ROYAL MATERNITY CHARITY, HONORARY LIBRARIAN TO THE OBSTETRICAL SOCIETY OF LONDON.

(Concluded from p. 329.)

IT seems to me that if we have a menstrual pain which is caused by congestion of otherwise healthy pelvic organs, such congestion being brought about by some trifling and passing cause, this pain may with fair accuracy be called congestive dysmenorrhœa; and we may prefix to it the adjective "primary," to distinguish these cases from those in which the congestion is but secondary to some other morbid condition. I shall not discuss which are the parts most congested, or whether they ought to be called congestive or inflammatory. Of course congestion never arises without a cause; but the cause may be transitory, and the resulting changes of longer duration, so that we may be able to discover the latter only, or the cause may be so insignificant that our modes of investigation cannot detect it.

Supposing that cases of this kind of dysmenorrhœa do exist, can any kind of proof be adduced that congestion is the sole cause of the pain? The only proof that I can imagine is, (1) that no other cause for the pain should be discoverable; and (2) that if the pain be due to hyperæmia, it should be relieved by depletion of the overfilled blood-vessels, and, if no abiding cause for the congestion be present, sufficient local bloodletting should cure the patient. Such cases are met with, and I will instance one.

A. K——, aged forty-four, a canvasser's wife, came to the obstetric out-patient department of the London Hospital on Nov. 13th, 1878. Her complaints were of infrequent, scanty, and painful menstruation, of pain between the periods in the right inguinal region, and of dyspareunia. She stated

that she had always lived well, and had tolerably good health. Five years ago she had suffered from a skin disease, which lasted a month. For five years she had been subject to "neuralgia" down the left side of the head. During the last winter she had been troubled with rheumatic pains, but they were not severe enough to lay her up. These were the only illnesses she remembered having had. She had never had any bad sore-throat, loss of hair, or bad eyes, and the skin disease mentioned was only on the trunk, not on the arms or legs. She first menstruated at fifteen, and was regular until her pregnancy, the flow usually lasting seven days, and not being copious. It was attended with a good deal of pain, but not enough to lay her up; she did not remember the character of the pain. She was married at thirty-three; her first child was born twelve months afterwards; the labour was a long one, and the child was stillborn. Her second child was born seven years ago; the labour was a long one, but the child lived. She kept her bed for a fortnight afterwards, and suckled the child fourteen months. Between the two pregnancies she menstruated regularly, the flow being rather less than before marriage, and not accompanied with quite so much pain. She had never been quite well since the last confinement, but had suffered from languor and aching in her limbs. She had been regular since weaning the child, the flow at first returning every three weeks, being scanty, and attended with more pain than formerly. During the last two years the interval had been eight or nine weeks, and the flow only lasted a day or so, but sometimes a slight "show" would appear every day for a month. For the same time she had suffered from dyspareunia. She had also had a "dragging pain," referred to the right inguinal region, which was worse at the menstrual period and on any exertion. This pain was relieved by lying down, and when severe was accompanied with nausea. She also complained that she could not hold her urine long, of pain in the dorsal and sacral regions, and of pain in the calves of the legs on standing. For twelve months her appetite had been poor, she had had pain at the epigastrium after meals, and been annoyed much by flatulence, and her bowels had been confined. There was no pain on defecation. Just before the menstrual period there was usually a slight white discharge. She had suffered from "sick headaches" ever since she was about fourteen, from "fainting fits" since the age of twenty, and from hysterics since about twenty-seven. She had been less subject to the fainting fits and hysterics since her marriage, and all three kinds of seizures—sick headaches, fainting fits, and hysterics—had been better during the last three or four years. She was a well built, well-nourished woman. So far from being anæmic, her complexion and mucous membranes were unusually florid. She showed no signs of having wasted. Nothing abnormal was detected by abdominal palpation; there was no marked tenderness anywhere. On vaginal examination the cervix was found large, and to bimanual manipulation the whole uterus seemed increased in thickness, but its cavity only measured two inches and a half in length. The position of the uterus was normal; its shape was not altered except in the manner mentioned; it was quite movable, and pain was not caused by moving it. There was no swelling, nor any local tenderness, in any other part of the pelvic cavity. There were no signs of disease in any other part of the body except that there was an enlarged and slightly painful gland in the right inguinal region, below Poupart's ligament. She was given an aperient mixture, and at intervals local depletion was effected by scarification of the cervix uteri. The times chosen for doing this were the days on which she stated that her symptoms were worse than usual, which was generally at or near the menstrual period. She was scarified on Nov. 13th, Dec. 4th and 11th, and Jan. 8th, 1879. It is not necessary to describe the progress of the case from week to week, during which the same treatment was steadily followed out, and the only change consisted in a progressive diminution of the symptoms. It will be enough to state that on Jan. 15th she said that she thought herself quite well.

On March 14th she complained that her old pains occasionally returned, although they were not so severe as when she first came to the hospital. She was again scarified. On March 28th she again said that she thought herself quite well.

On April 29th she again came to the hospital, but this was not on account of any return of her uterine symptoms, but because the enlarged femoral gland before mentioned was now suppurating. She was transferred to the care of my colleague, Mr. Adams.

Dec. 7th.—She attended in answer to an inquiry. She said that she had continued well. Menstruation had recurred at intervals of from four to six weeks, the flow lasting four days, and being accompanied with pain, but not with more pain than she was accustomed to have before marriage, and much less than the pain she suffered before coming to the hospital. Until September she had hardly any pain at all.

The distinguishing marks of the form of dysmenorrhœa which this case exhibits are these: There is diminution in the quantity of the menses, without any change in the general condition of the patient, such as usually lessens the amount of the flow. There are many diseases which it is well known lead to scanty menstruation; any kind of wasting disease, or any cause of anæmia may do so. The spammenorrhœa which results from conditions such as these is conservative; is not accompanied with pain, and does not demand special treatment, and it is generally evident from the patient's appearance and condition that there is an adequate cause for it. In the congestive cases, on the contrary, the patient remains florid in the face, her mucous membranes continue highly coloured, and her general appearance is so much that of health that it ought to at once suggest to the observer that the cause of her troubles is probably local and not constitutional. With the decrease in the quantity of the menstrual flow there is increase in the accompanying pain. This pain is not very intense, it is not paroxysmal, although there may be remissions in its severity; it is not definitely localised. It is described as a constant dragging, aching, throbbing, or "gathering" pain, and its seat is vaguely indicated as round the lower part of the back and abdomen and down the thighs. It is relieved, but not completely removed, by lying down. It precedes by a day or more, accompanies, and may last a day or two after, the flow. The patient usually also complains of too frequent desire to make water and of slight pain during micturition. Whether other pains are present or not will depend upon the degree of congestion, and so will the severity of the pain and the length of time it lasts; it may be continuous from one menstruation to the next.

Local examination shows no very striking change in the condition of the pelvic organs. The uterus is quite movable, is natural in shape, but may be slightly enlarged; its canal is pervious. There is no swelling to be felt in either vaginal cul-de-sac. Pain is usually produced by moving the uterus or by compressing it between the hands. These, I believe, are the chief marks of the cases in which congestion is the cause of painful menstruation. Diminution in quantity of flow, with increase of pain, and absence of any condition of the general health which could account for the former, and of any definite local disease which could cause the latter.

In further support of these statements I may cite Aran, who, speaking of congestion of the uterus, says, "Most often the menses become more scanty and more irregular, sometimes altogether wanting at the period, which is yet accompanied by pains which indicate an evident molimen, sometimes appearing at very short intervals, every three weeks, every fortnight, or every week, but consisting in a very small discharge of blood. This diminution in the quantity of menstrual blood is almost characteristic of the dysmenorrhœa which is connected with congestion, or congestive dysmenorrhœa."[1] I have already referred to Dr. West's lectures, in which he states that there are two forms of congestive dysmenorrhœa—one in which menstruation is profuse, another in which it is scanty. He doubtless, in mentioning the latter group, had in mind cases such as those described by Aran. Barnes describes the same thing, but he puts it under the head of "inflammatory dysmenorrhœa." He says, "Inflammatory dysmenorrhœa is not common in single women. The clearest examples are those in which dysmenorrhœa follows on suppressed menstruation, as from the sudden shock of cold, injury, or emotion, sustained during the flow. Under this circumstance, metritis, or at least uterine congestion, is very likely to arise; and an inflamed organ necessarily performs its function, if it be performed, with pain. Not uncommonly, in these cases, pelvic peritonitis and oöphoritis complicate the metritis; and these conditions in themselves will make menstruation painful."[2] Becquerel recognises that there is a form of dysmenorrhœa which is relieved by depletion.[3]

I follow Aran in calling these cases "congestive," because

[1] Maladies de l'Utérus, p. 358.
[2] Diseases of Women, 1st edition, p. 352.
[3] Traité Clinique des Maladies de l'Utérus et de ses Annexes. 1859. Tome ii. p. 393.

I do not see definitely present signs of inflammation. I do not wish to attempt a too exact definition of the pathological nature of the deviation from health which is present; for as the disease is not fatal, we seldom, if ever, can ascertain exactly what changes have taken place. Paget says of congestion: "Herein ..... is one of the pieces of neutral ground between health and disease; a step in the one direction may effect the return to health; in another the transit to what all might admit to be the disease of inflammation."[4] I shall not discuss whether in the cases in question the congestion has or has not made the transit to inflammation. As to the seat of the congestion, the hyperæmia which accompanies natural menstruation affects more or less all the pelvic organs, and therefore I suppose the congestion which causes pain does so too. Signs pointing to an especial affection of one part are in these cases absent.

It is these cases that I think best deserve the name of congestive dysmenorrhœa. It is by the study of uncomplicated cases only that we can hope to ascertain the natural history and clinical features of any form of disease. I do not say that with the various forms of disease which have been set down as causes of congestive dysmenorrhœa, menstrual pain due to congestion does not occur. It would be surprising if it did not, and doubtless it often does. But I do not think it is always the case that the dysmenorrhœa accompanying these conditions is due solely to congestion, or that sufficient criteria have been laid down to enable us to pick out the cases in which the pain is of this kind. Cases of this primary form (so-called "idiopathic," a term which I think objectionable, because implying that the congestion arises without a cause) are not common, and I have not notes of a sufficient number to enable me to draw any conclusions from them as to etiology. I believe that, as Barnes says, it is more common in women who have had children than in virgins, and that it may be produced by cold, or by physical or emotional shock, such as fatigue, fright, anger, &c. The effect of venous congestion from heart, lung, or liver disease, in producing this (as Scanzoni asserts) or other uterine disorders, is in itself a wide subject, which I will forbear discussing here.

The proof of the correctness of the diagnosis in these cases is the success of the treatment. It is commonly the case that in diseases which are not fatal, and in which, therefore, post-mortem verification of our views regarding them is not possible, the effect of treatment is the only test of the accuracy of diagnosis. *Curatio ostendit morbum.*

The effect of treatment in these cases is definite and certain. It will be obvious that if the symptoms depend upon congestion, relief of the hyperæmic vessels ought to cure; and so it will. Local depletion is here the remedy. The blood may be withdrawn either by leeches or by scarification, the former being the more effectual, although slightly the more troublesome. Beside local depletion, everything which tends to cause congestion of the portal system should be removed. Therefore moderate purgation is desirable, saline aperients being given the preference. I doubt the advisability of ordering complete rest; moderate exercise does not aggravate the local symptoms, and is good for the general health. It is only necessary to warn the patient against over-fatigue and prolonged standing. Alcoholic drinks and heavy meals should be forbidden. In the simple cases about which I have been speaking the symptoms are not very acute. Great local pain and tenderness, elevation of pulse and temperature, thirst, loss of appetite, &c., indicate more than simple congestion, and require somewhat different treatment, a description of which does not come within the scope of this paper. The result of proper treatment in these cases is prompt and unmistakable. The patient is relieved at once. If the case be recent and the symptoms slight, it may be that a few days' purgation and one sufficient local bloodletting will be enough to remove the patient's symptoms, and that she will then go on menstruating, both as to quantity and pain, in the manner which is for her normal. In slight cases I believe that if the patient observe the ordinary laws of health, and is not exposed to any fresh cause of disturbance, recovery will often take place spontaneously. In slight cases, therefore, we may do enough if we simply try to amend anything that may be unhealthy in the patient's habits of life or surroundings, and give medicine to gently act on the bowels. Local depletion is not essential in every case, although it is the most effectual, speedy, and certain remedy. On the other hand, if we are not consulted until the patient has suffered for many months or years, lengthened treatment and repeated local bloodletting may be needed before menstruation becomes natural. The longer the case has lasted, the more the condition approaches that which we are accustomed to call chronic metritis, and the longer will treatment be required before recovery takes place. Even in the most chronic cases we can almost invariably relieve for the time by taking blood from the uterus, even though the benefit be not persistent. This form of congestive dysmenorrhœa is not only met with alone, but it often coexists with other morbid conditions. Therefore I would add, as a kind of corollary, that, as a general rule, the cases of uterine disease in which local depletion does good are those which are associated with this kind of congestive pain, in which we have the combination of scanty menstruation with pain in a florid, healthy-looking woman.

I will conclude by recapitulating the points to which I ask attention in this communication.

1st. The term *congestive dysmenorrhœa* is one which has no definite and generally accepted meaning, but is applied by different authors to different conditions.

2nd. That there is a form of dysmenorrhœa characterised by deficiency in the quantity of the flow, with increase in the pain, these changes occurring in a patient whose general condition is not such as would cause menstruation to become scanty, and who is otherwise in good health.

3rd. In such cases local depletion always relieves, and if the changes be recent, cures the patient.

4th. That in these cases the absence of appreciable morbid conditions other than congestion, and the prompt relief by local depletion, give good reason for thinking that the pain is due to congestion.

5th. That it would be well either to restrict the term "congestive dysmenorrhœa" to these cases alone, or at least to separate such cases from all the other forms of disease to which the term congestive dysmenorrhœa has been applied, the adjective *primary* being suggested as the best distinguishing prefix.

ERRATA.—In the first part of this paper, published in the number for Feb. 26th, "Monat" should have been *Nonat*, and "Courtx" should have been *Courty*.

West-street, Finsbury-square, E.C.

[4] Lectures on Surgical Pathology, 3rd edition, p. 227.

CASE OF ANÆSTHETIC LEPROSY TREATED BY STRETCHING OF BOTH ULNAR AND BOTH SCIATIC NERVES.

BY E. LAWRIE, M.B.,
PROFESSOR OF SURGERY, LAHORE

KOUDA, Hindoo cooly from Gujerat, aged thirty, was admitted into the Mayo Hospital, Lahore, on Nov. 30th, 1880, suffering from anæsthetic leprosy. There were anæsthetic patches on the trunk and limbs, especially well marked in the ulnar areas of the hands and on the legs and dorsal surfaces of the feet. The hands were wasted, and he had lost the power of grasping to such an extent that he had been unable to follow his occupation for six months. Under chloroform both ulnar and both sciatic nerves were stretched. They were all thickened; the right ulnar was partially softened, and the left sciatic adherent to the fascia of the biceps. Listerism was employed in the treatment of the wound, which healed by the first intention.

After the operation the patient improved rapidly. The first sign of improvement noticed by himself was the return of power in the hands, and this was so decided that in a few days he felt able to work, and insisted on leaving the hospital. The result noted when he was discharged on Dec. 13th, 1880, was that he had regained power in the hands, and that sensibility was restored, though not fully, in all the patches on the hands, legs, and feet which had previously been anæsthetic.

Lahore.

LAST week a banquet was given by many of the leading citizens of Bristol to the Hon. Theodore Canisius, M.D., who, after six years' residence there as United States Consul, was about to leave the city. At the conclusion of the banquet an address was presented to Dr. Canisius, signed by the Mayor of Bristol and several of its more influential inhabitants.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

ATONY OF THE BLADDER; RECOVERY.

(Under the care of Mr. PEARCE GOULD.)

FOR the following notes we are indebted to Mr. Charles Rooke, dresser.

J. L——, aged fifty-seven, was admitted into Luke ward on Aug. 10th, 1880, suffering from retention of urine. He was a labourer with small but very firm muscles, no subcutaneous fat, bald and grey, and looked more than his age, and had marked arcus senilis. He had always enjoyed good health until twelve months before, when he found difficulty in passing his urine. This gradually increased until the night before admission, when after a hard day's work he was unable to pass a drop. He went to a medical man, who gave him some medicine and sent him to the hospital. The "difficulty" he noticed was a slow, feeble stream, and inability to empty his bladder, with frequency of call to micturate.

On admission the distended bladder formed a prominent tumour in the hypogastrium, reaching almost up to the umbilicus. The prostate felt from the rectum was hard and moderately enlarged. Mr. Gould passed without any difficulty an olive-headed catheter, No. 10 English scale, and drew off rather more than four pints of clear, acid, healthy-looking urine. The urine flowed slowly, falling vertically from the end of the catheter. The influence of respiration on the stream was evident. After the escape of about a pint the flow ceased, and the rest was forced out by the hand above the pubes, and when the pressure was relaxed air was heard to be sucked in through the catheter. The man was kept in bed on full diet, and his bladder was emptied by catheter night and morning. On Aug. 15th a mixture containing five minims of tincture of nux vomica was ordered to be given three times a day. The catheter used was always carefully washed in carbolic lotion—5 per cent.—before being used, and lubricated with carbolic oil—10 per cent. This appeared to cause some irritation of the meatus, and vaseline was substituted for the oil, and the irritation quickly passed away. There was no sign of any vesical irritation; the urine remained clear, acid, free from mucus and albumen, and the bladder gradually regained its expulsive power. Thus on Aug. 15th the patient could pass 4 oz. of urine by his own efforts, and on Aug. 17th this had increased to 10 oz., and thus he improved until on his discharge from the hospital on Sept. 15th there was only half an ounce of "residual urine" to be drawn off.

Remarks.—This case is an example of the extreme degree of atony of the bladder with complete retention of the urine, not unfrequently met with in connexion with chronic prostatic enlargement. The daily use of the catheter has long been recognised as the proper mode of treatment for such a condition, but the occurrence of decomposition of the urine with subsequent chronic cystitis have too often prevented the attainment of a perfect result. The case illustrates one application of antiseptic surgery to urinary surgery, and its value in preventing the decomposition of the urine can hardly be overrated. The result of the daily emptying of the bladder in leading to a gradual and almost perfect recovery of the bladder's power throws considerable light on the way in which this atony of the bladder is originally produced. For it is clear that it is not by obstruction to the outflow of urine with retention and stretching of the muscular coat of the bladder, nor is it from any local action of decomposed urine; but rather, it seems, from a small primary "residue" of urine. A few drachms which the bladder cannot evacuate have a paralysing influence upon the bladder muscle, which leads to the retention of a greater amount of urine; this, again, to further diminution of expulsive power, and so on until the stage of complete retention and atony is reached. The history of such cases before they come under treatment, as well as the results of catheterism, bear out this view. The symptoms often arising from a very small quantity of "residual urine" and the importance of its relief have been laid stress upon by Sir H. Thompson. The patient attends the hospital as an out-patient every month, and up to the present time (March 2nd) his condition remains as on the date of his discharge; he continues to draw off the few drachms of "residual urine" every night. The quantity has not increased since he left the hospital.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

EXOSTOSIS OF THE ANTRUM; REMOVAL OF SUPERIOR MAXILLA; DEATH.

(Under the care of Mr. RANSFORD.)

R. P——, admitted December 24th, 1879, a coloured seaman, aged forty-three, married, born in Liverpool; never had syphilis or other venereal disease; no disease in his family; brothers and sisters alive and healthy; father and mother died when he was young. He was much troubled with toothache and gumboils until about fourteen years ago, when they ceased. About this time he received a blow on the mouth, and a lump appeared on the left side of his face, which very slowly increased in size till it became as large as a pigeon's egg; a swelling began to appear on the left side of the roof of the mouth about the same time. These swellings were quite painless, and did not discharge. About six weeks ago the patient began to have little boils all round the external swelling, and the whole tumour began to increase rapidly, and his lower jaw began to get immovable. About three weeks before admission the swelling burst, with much relief, in two places on the left cheek. He had not been able to take solid food for some time.

On admission he was a feeble, thin-looking man, with feeble pulse, and the left side of his face bulging very much. His nose was pushed over to the right, his left eye pushed up, and two sinuses were discharging on the left cheek, one just over the malar bone, and one over the lower jaw, both leading to the necrosed malar bone. His lower jaw was rather fixed, and he was not able to open his mouth more than half or three-quarters of an inch; but on looking into the hard palate on the left side it was seen to be pushed down to the level of the crowns of the teeth. On introducing the finger the antrum was felt to be bulged outwards and downwards by a hard tumour. There was a most offensive smell from the mouth, and from the sinuses on the cheek. Taking into consideration its long history, with its recent rapid increase, and from its very offensive odour, it was believed to be an innocent tumour, probably fibrous, taking on a malignant nature. The odour was thought to be due to suppuration within the antrum, and with a view to explore it the left canine tooth was extracted, and a probe was introduced into its cavity; this came into contact with something rather hard, but no pus was seen. The patient was recommended to have the superior maxilla removed, which was done.

On Dec. 31st the operation was performed with the usual Fergusson incision, the orbital plate and the malar bone being removed. On lifting out the superior maxilla with the tumour, a large sloughing cavity was seen, from which there arose an offensive smell. This at first seemed to confirm the diagnosis as to the malignant nature of the growth. The bleeding, which was slight, was stopped; the surface was washed with a solution of chloride of zinc (40 grains to the ounce). All suspicious points were touched with the thermo-cautery. A sponge, wrung out with carbolic acid (1 in 20), was placed in the hollow, and the flaps were adjusted. After the operation the patient seemed very faint, and the pulse was very weak, so he was ordered two teaspoonfuls of brandy every second hour.

On Jan. 1st he took, during the night, a pint of beef-tea and nearly two pints of milk. Next morning pulse good—112; temperature 101°. The sponge was removed from the cavity, and he was ordered chlorate of potash as a wash for the mouth, also Condy's fluid. On the 2nd the wound was looking well; no tension; most of it had healed up by first intention; breath not very offensive; cavity syringed with

Condy's fluid. Food taken well. Temperature 102·6°; pulse 102; evening temperature 102·8°; pulse 104; respiration 20. On the 3rd he seemed a little weaker. Ordered half an ounce of brandy. Slept well during the night; no pain; cicatrix of wound looking well; sutures removed. Bowels open; no rigors; temperature 102°; pulse 100; respiration 24; morning and evening temperatures alike. Lint, saturated with boracic acid, introduced into the hollow caused by the removal of the growth. On the 4th, morning temperature normal; evening 100·8°. On the 5th, temperature morning and evening 99°; pulse 100; respiration 24. On the 6th, morning temperature 98°; pulse 88; respiration 16; evening temperature 102·8°; pulse 104; respiration 18. Great rise of temperature in the evening. No rigor. On the 7th the upper lip and left cheek swollen; much œdema of left eyelids. Morning temperature 101·2°; pulse 80; respiration 16; evening temperature 103°; pulse 100; respiration 20. On the 8th great fall in temperature; morning 101·6°; evening 101·2°. Notwithstanding the high temperature, the man had taken his food well—namely, four pints of milk, digested with pancreatised glycerine, as suggested by Dr. W. Roberts of Manchester, two eggs, bread-and-butter, sago, &c. On the 9th cicatrix at the situation of the old sinus over the malar bone had given way; an opening the size of a pea inside of wound seemed to be covered with crusts of dry pus. No active granulation seemed to be going on. Cheeks not so swollen. Bowels regular. Further fall in his temperature, morning 98·8°; evening 99·2°; pulse 90, compressible; respiration 20–26. In the evening a blush extending over the forehead was noticed. On the 10th the temperature was rising: morning 100·2°; evening 101·6°. The blush had not extended, but was rather less. Discharge from mouth not so free, nor so offensive; felt chilly in the morning. On the 11th redness had disappeared; discharge was free from the mouth; patient complained of soreness in the mouth. The temperature had fallen to 97° in the morning; evening temperature 99°; and so he went on, his temperature rising and falling, but all the time eating and sleeping well, yet without gaining strength. On the 25th he complained of great pain along the left sciatic nerve; ordered a blister, and the surface to be dusted with powdered morphia. Temperature 99°; pulse 70. Next day he did not complain of any pain; temperature normal; appetite good; no action about the site of the old sinus over the malar bone; no granulations; no pus. On the 28th, morning temperature 99°; pulse 100; respiration 16. At about one o'clock he had a rigor; at 1.30 P.M. his temperature had risen to 103·8°; his pulse to 144. Ordered five grains of quinine, every four hours. At 2.30 his temperature was 105°; pulse 160. At 3.30 it had fallen to 104·2°; his pulse to 138. No pneumonic signs; no pains in any part of the body. 8.30, temperature 105°; pulse 104. On the 29th, pulse 126; temperature 103°; skin hot and dry; some cough; no sputa; tongue dry and brown; bowels open. On the 30th, seemed better and stronger in the morning, and took some food, but soon after the house-surgeon left him he suddenly collapsed, became unconscious, and died.

Necropsy, twenty-four hours after death.—The whole of the seat of operation had healed up both inside and outside, with the exception of a small portion of the skin wound over the malar bone at the situation of the old sinus, where an oblong opening about half an inch long existed. Some of the veins in the neighbourhood contained pus. No secondary deposits anywhere. The heart was flabby, no fatty degeneration. "The tumour" (Report by Mr. F. T. Paul, now in the Museum of the Liverpool School of Medicine) "weighed four ounces, size two and a half inches by two and a quarter inches. The growth consists of dense osseous tissue, and has generally a rounded form. It is discoloured and fetid, and has no connexion with any other bone, nor are the soft tissues genuinely adherent to it. All the upper part is quite bare. The front and under surface are loosely covered with facial tissues and mucous membrane. A molar tooth is firmly rooted in the mass, and is not carious, though probably dead. The osseous tissue is very hard but brittle, and is as discoloured in the centre as outside. The texture is somewhat more open in the middle. The nature of the tumour seems to be that of an exostosis or osseous hypertrophy of some part of the superior maxilla, certainly involving the alveolar process. During its growth it probably caused the absorption of most of the bone by pressure, and ultimately necrosed through lack of nourishment."

Remarks.—This tumour somewhat resembles Mr. Hilton's case, reported in the Guy's Hospital Reports, vol. i. p. 493, in the fact that the tumour had necrosed spontaneously, but it differed from it in structure, as it was not hard and polished like ivory. If it absorbed the palate process, the orbital, the zygomatic, and the internal and external walls of the antrum, in front it had the thin anterior wall of the antrum covering it. The alveolar process also existed.

YORK COUNTY HOSPITAL.

NEEDLE IN KNEE; AMPUTATION; RECOVERY.

(Under the care of Mr. JALLAND.)

FOR the notes of this case we are indebted to Mr. F. H. Weekes, house-surgeon.

S. B——, a dressmaker, aged twenty-five, was admitted on May 17th, 1880, suffering from acute synovitis of her right knee. Close to the outer margin of the patella a minute puncture could be seen, and this the patient stated had been caused in the following manner:—Six days prior to admission the patient ran a needle with considerable violence into the knee, but this she pulled out immediately. The puncture indicated the point of entrance. On the day following the accident the knee became hot, swollen, and painful, so that the patient was compelled to remain in bed until her admission into the hospital. As far as could be ascertained, no rigors had occurred.

On admission, a back-splint and ice-bags were applied to the knee. During the same afternoon a slight rigor took place, and the evening temperature was 103°. The knee continued to increase in size, and the pain in it became so severe as to greatly interfere with sleep at night. The appetite also became very bad. On May 20th, after the occurrence of a rigor, an incision was made over a prominent part of the joint, with the aid of anæsthetics and antiseptics, and about an ounce of exceedingly fetid pus evacuated. This cavity, which probably communicated with the joint, although this fact was not certain, was washed out with antiseptics, had a drainage-tube inserted, and gauze applied as a dressing. In the evening the temperature was 103°, the same as it had been on previous evenings. The patient had a good night's sleep, and the pain in the knee was much less next morning, when the temperature was 98·8°. Evening temperature 98·2°. On the 22nd the morning temperature was 98·8°. The wound was dressed. Free discharge of offensive pus. Evening temperature 103°, and the patient had a very restless night. The pain in the knee was very severe next morning. During the afternoon (23rd) the patient was seized with a rigor, in which the temperature rose to 106·4°. After this the wound was dressed, and a free incision made on each side of the patella into the joint cavity, with the effect of setting free several ounces of very offensive pus. The knee was again well cleansed with carbolic lotion, drainage-tubes were inserted, and the whole was dressed with gauze, everything being done, as on the former occasion, with antiseptic precautions. The wound was dressed daily on the Listerian plan, but it was never aseptic. The evening temperature averaged 103°. On the 28th pus was found to be running up the back of the thigh; for this an exit was made, and one hour afterwards the patient had a rigor, with a temperature of 105°. The soft palate ulcerated, interfering a good deal with deglutition, but under the local use of perchloride of iron the ulcers soon began to heal. A careful examination of the patient showed that the lungs, liver, kidneys, and the joints, excepting the knee, were healthy. The evening temperature continued to average 103°. The appetite is improved; and with the aid of chloral a fair amount of sleep at night is procured.

On June 5th the gauze dressings were discontinued, and charcoal poultices were substituted. An accumulation of pus in the popliteal space was evacuated by a counter-opening, all the other wounds discharging freely a fetid pus. On the 7th a large abscess was opened on inner side of thigh, a short time after which a rigor took place with a temperature of 104·5°. On the 12th the patient was very pale, extremely thin, taking but little food, subject to profuse perspirations and rapid variations in temperature. Nearly every day a fresh accumulation of pus was found, requiring

to be opened. None of the wounds healed, and all discharged a profuse, fetid, purulent fluid. On moving the knee distinct grating can be felt. Under these circumstances, amputation at the lower third of thigh was performed by Mr. Jalland with antiseptic precautions. The patient had a good night's sleep, and there had been neither vomiting nor hæmorrhage. As there was much discharge the wound was dressed next day; all looking well. On the 15th the wound was again dressed, and most of the sutures were removed. On the 18th there was slight discharge; the wound was dressed. On the 20th the wound was dressed again; all sutures and drainage-tubing were removed; the flaps were almost entirely healed.

On July 5th the stump was examined, and found to be quite well and free from pain; the dressings were discontinued. The general health was much improved, the patient taking her food well, and sleeping through the whole night; allowed to get up. Temperature has been normal since amputation. On the 17th discharged well.

Remarks.—We are frequently in the habit of pushing the needle of the hypodermic syringe into various parts of the body without producing any serious effects, that one is astonished to find what severe mischief may be set up by a simple needle puncture. In this case the girl said positively that the whole of the needle came out, so that the damage to the knee-joint must have been set up by the septic matter conveyed on the needle.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

A Probable Cause of Lead Colic.—The Ox Aorta Ligature and the Variability of Catgut.

THE ordinary meeting of this Society was held on the 8th inst., the newly elected President, Dr. A. W. Barclay, taking the chair for the first time.

A paper was read "On a Probable Cause of Lead-colic," by Dr. C. HILTON FAGGE. After referring to the fact that in certain observations on the nature of the lead line in the gums, published in the fifty-ninth volume of the Transactions, he had been anticipated by a French physician, M. Cras; the author remarked that both he and M. Cras had on theoretical grounds suggested that it was almost certain that sulphide of lead must be formed in the intestinal mucous membrane of persons exposed to the action of the metal, by the reaction of the sulphuretted hydrogen of the intestinal gases upon a soluble combination of lead circulating in the capillaries. The author had since had few opportunities of examining the bowel in patients who had had symptoms of lead-poisoning. In two instances the results were negative. In the other two instances a marked and extensive blackening of the interior of the bowel was observed. Dr. Stevenson was kind enough to make analysis of the discoloured contents of intestine, and to compare them with analysis of healthy pieces of intestine from the same patients, and he proved that there was an excess of lead in the blackened part, amounting in one case to as much as 320 times the quantity present in the non-coloured part.—Dr. DOUGLAS POWELL asked whether any microscopical examination of the intestine was made, as the precise seat of the deposition of lead might explain whether it occurred by direct action of the sulphuretted hydrogen on the lead in the bowels, or on the lead on the way to being eliminated by the large intestine after its absorption higher up. The treatment of lead colic by iodide of potassium was generally followed up by purgatives, in the view that the lead is so eliminated.—Dr. R. THOMPSON said it was important to remember there were two ways in which the intestine might be blackened by lead. It may be that the metal is deposited in the mucous membrane from the blood, and converted into the sulphide by the intestinal gases, or that, like bismuth, it is acted upon by these gases before absorption. He had found in those who took bismuth that the mucous membrane of the large intestine was blackened by the sulphide of bismuth, which by means of chromic acid could be converted into the yellow chromate. He referred to Dr. de Mussy's observations on the Claremont cases treated by alkaline sulphide baths. The skin was blackened—a condition which Dr. Thompson had found in another case similarly treated to be due to the deposit of sulphide of copper, from the action of the solution in the metal of the bath.—Dr. POWELL added that Dr. Fagge's views as to the cause of the blue line on the gums were confirmed in a very marked case of lead paralysis without any such blue line being present. This absence of the blue line was associated in the case with a complete freedom from tartar on the teeth. It was well known also that no blue line appears on edentulous gums.—Dr. CAVAFY asked Dr. Fagge whether he regarded the deposition of the sulphide of lead in the intestine as the cause of lead colic, and, if so, did he think it acted on the nerves of the intestines. *Primâ facie* there was no reason, if this were the case, why the deposition of the salt on the gum should not give rise to toothache.—The PRESIDENT pointed out that lead was undoubtedly absorbed into the blood, and its action was not merely local like that of bismuth. Was the lead only partially absorbed, or was it eliminated again into the alimentary canal, as Dr Powell stated. The presence of the discolouration in the large intestine was due to the larger amount of sulphuretted hydrogen in that portion of the bowel. He presumed that lead colic had its seat in the small intestine, so that it could not be attributed to the existence of the deposit.—Dr. FAGGE, in reply, said that a microscopical examination was made in the first case, and showed the black granules to be deposited around the capillaries of the villi, just as on the gums. Dr. Thompson's remarks as to the discolouration of the intestine from bismuth were suggestive. Bismuth blackened the tongue, and Brinton suggested that it also produced a blue line on the gums, but this Dr. Fagge had not been able to confirm. The lead line was due to the deposition of the metal in the tissue of the gums, and its conversion into sulphide by the tartar. It was by following out the line of inquiry thus suggested that he had sought for discolouration of the intestinal mucous membrane, where a much greater amount of sulphuretted hydrogen would be in operation than in the gums. There was no reason to suppose that any large quantity of lead would escape absorption. He did not adduce the fact of deposition as explanatory of lead colic, which, however, had, he thought, its seat in the large intestine.

The following is an abstract of a paper "On Experience and Specimens of the Ox Aorta Ligature, and some Remarks on the Variability of Catgut," by Mr. RICHARD BARWELL, F.R.C.S. The object of a paper read before this Society two years ago was, firstly, to point out the cases of aortic aneurism which might be benefited by deligation of the right carotid and subclavian; secondly, to show the advisability of leaving all the coats of arteries tied in continuity intact; thirdly, to introduce a flat ligature to carry out this object. The experience, necessarily small, which I could then adduce may now be supplemented by two additional cases of aortic aneurism treated by tying the above-named vessels with the ox aorta ligature; thus there are three in all. 1. My own case; lived sixteen months in fair health and comfort. 2. A case of Dr. Lediard (now of Carlisle); lived ten months. 3. A case by Dr. Wyeth of New York; is now alive and in good health. Besides these I have to report a case in which I tied for aortic aneurism the vessels on the left side of the neck. The operation failed to prolong, but I do not know that it shortened, life. The patient survived thirty hours. The parts of my first case, and of Dr. Lediard's case (by the kind permission of Dr. Hopkins), are on the table, as are also certain specimens removed from the last case. The arteries of the first have been injected; the carotid ligature was *ab origine* tied too loose. It was the first artery I had tied with the ox aorta, and I attributed the almost immediate return of temporal pulse wrongly to free collateral circulation. The loop of ligature probably remains on the vessel. The subclavian is quite closed, and, being slit lengthwise, shows the tunics entire. Collateral circulation is well established. Of the second case Dr. Lediard writes: The aneurism is filled with very firm clot. Nothing could have been more satisfactory than the action of your ligature in this case. The vessels were entirely occluded, there being no trace of the bands seen, but a firm clot above and below the seat of constriction, such as is usual in vessels tied in continuity. The

parts from the last case are the subclavian, showing where tied no injury to any of the coats—the severed ligature from that artery. The other ligature with the knot entire, and showing no tendency to loosen. Four other vessels have been tied with this ligature—two iliacs (Mr. Holmes and Mr. Johnson Smith), two femorals (Mr. Bellamy and Mr. Barwell); in these four cases the aneurisms did perfectly well, the wounds healed at once, and nothing more was seen of the ligature. The twelve deligations are more than sufficient to show that the ox aorta ligature becomes absorbed with sufficient slowness to be perfectly reliable in tying vessels in continuity. They show this with the more force because this material is not prepared, the ligatures are cut from the fresh aorta and dried, hence they are uniform. What has happened with those that have been employed will happen with all. This power of becoming gradually absorbed is common to all the soft connective tissues, provided they are perfectly fresh—i.e., not decomposed. The submucous tissue of sheep's intestine, of which catgut is made, would, if it were dried while fresh, act like other soft connective tissues, with no need whatever for after preparation. But in the manufacture of catgut this structure is separated from the rest by processes of scraping, a procedure which would be impossible unless the intestine were to some extent decomposed. The various modes of preparing catgut into ligatures are devices for getting rid of the results of this decomposition. Catgut sutures, more easily watched than ligatures, dissolve in very various periods, though prepared in identically the same way. One of the chromic acid processes gives cords, dissolving some in nine, some in nineteen days. The usual (old) method has supplied me with sutures, some of which have dissolved in forty-eight hours, some remained persistent, and had to be cut away on the fourteenth day. This results from the various degrees of decomposition in the catgut itself; it cannot happen with tissues that are fresh and require no after-elaboration. When a piece of catgut is buried deep round a large vessel, we cannot be more sure of its behaviour than we can predict the duration of the sutures; nor can we deduce from the good behaviour of certain such ligatures that the particular piece supplied us will act properly. For tying large vessels near the heart, or lying deep, a material whose action is more uniform, which is therefore more reliable, is essential.—Mr. LISTER said it was interesting to learn that the tissue of the aorta resisted absorption for so long a time. He disputed the statement that the preparation of catgut by scraping was due to putrefaction. On the contrary, the fresher the intestine the better the quality of catgut. The rapidity of absorption of improperly prepared catgut was not due to the state of putrefaction, but to the difference between cellular tissue and aortic tissue. Unlike Mr. Barwell, he had found old catgut less readily absorbed than new catgut; but by the new mode of preparation he had described both kinds were brought to the same level in this respect. Speaking of the desirability of dividing the inner and middle coats of an artery tied in continuity, he said that in one of his early experiments (using a ligature of a strip of ox's peritoneum) he had tied the carotid of a calf without dividing the middle coat; but this did not prove that the division of the inner and middle coats was not essential. Indeed, general experience went to show the desirability of such division—incomplete ligature or insufficient injury to the coats being followed by a tendency to the opening up of the vessels. He always applied the catgut ligature so as to divide the inner and middle coats; although whether this was absolutely necessary when the catgut was of the best form—(i.e., not too readily absorbed), he was not prepared to say. Referring to the case recently related by Mr. Treves, where the opening up of the carotid artery after antiseptic ligature was ascribed to the rapid healing of the wound, the subclavian in the same case being perfectly occluded, and the wound not antiseptic, Mr. Lister showed a specimen where the external iliac had been tied for femoral aneurism. An antiseptic silk ligature was used, and the wound followed an antiseptic course. The external iliac artery was wholly occluded. A small knot of silk remained, and a minute abscess occurred at the seat of ligature. Death took place one year after ligature. Here was evidence of extensive obliteration following the application of an antiseptic ligature. On the other hand, secondary hæmorrhage from the distal side followed sometimes on the use of ordinary ligatures, from absence of coagulation; and such cases proved that suppuration around the vessel did not invariably lead to obstruction. That failures in occlusion might follow the use of catgut, when not of proper quality, he was fully aware. Such failures were recorded, but the multitude of successful cases were not. He felt sure that if all the cases were reckoned in which the catgut ligature was applied to arteries in their continuity with strict antiseptic treatment, the results would compare very favourably with other methods of ligature. But if surgeons use the catgut ligature and allow the wounds to putrefy, good results could hardly be hoped for. Such cases as those recorded by Mr. Bryant were due to the lucky chance that union by first intention took place in the deep parts of the wound, thus preventing putrefaction around the ligature. He ventured to think that surgeons who undertake such operations are bound to take measures to avoid putrefaction. At the Cambridge meeting of the British Medical Association he adduced a long series of cases in which no putrefaction occurred, and since then he had had many more cases without putrefaction in a single instance. He did not state this in a spirit of boasting, but simply as a matter of duty. His cases at King's College Hospital were not dressed by himself, but by the house-surgeon and dresser, to whom the praise was due. Surely if such results can be obtained it was worth while to master the simple measures of preventing putrefaction. By the use of such measures the two great dangers to ligature of arteries in their continuity—viz., secondary hæmorrhage and diffuse suppuration—may be avoided, and these were objects deserving the best attention.—Mr. TREVES said that in the case he had reported where the carotid after antiseptic ligature became partially reopened, the catgut was of good quality and the coats divided. The small abscess at the seat of ligature in Mr. Lister's case of iliac ligature was hardly consistent with an absence of inflammatory reaction. With regard to the mode of tying arteries alluded to by Mr. Barwell, he had found by experiment that it was almost impossible to divide the inner and middle coats when a double hitch was made in the ligature before tightening it.—Mr. LISTER pointed out that the abscess referred to was of very minute size, and could not have produced any inflammatory change around the vessel.—Mr. HEATH remarked that in one of Mr. Barwell's specimens the carotid artery which had been ligatured was quite pervious, and showed no trace at all of any ligature. The subclavian in the same specimen was completely obliterated. Was there division of its internal and middle coats? He doubted if the surgeon could so graduate the force he applied as not to cut through the inner and middle coats.—Mr. BARWELL, in reply, said that much depended on the mode in which the ligature was tied. He had found that, owing to the roughness of catgut, it was difficult to tell from the sense of resistance whether the artery was being sufficiently pressed on or not. The carotid artery in the specimen alluded to by Mr. Heath had been incompletely tied. The condition of the coats of the subclavian was not ascertained in that specimen; but in another the internal and middle coats were not divided. By means of flat ligatures it was hardly possible to tie the vessel so tightly as to divide the inner and middle coats. He had been struck with the fact that the recorded cases of ligature of the largest vessels were fatal from secondary hæmorrhage, and it struck him that this would be obviated by keeping the artery entire. He did not at all suppose that this could only be done by means of the ox aorta ligatures. Mr. Pollock last year tied the subclavian and carotid successfully, using ligatures of kangaroo tendon. Professor Wyeth had used ligatures of the whole thickness of the aorta. Why should not catgut act in the same way? He certainly thought the preparation of catgut was attended by putrefaction, and had attributed its unreliability largely to this. One surgeon used chromic acid many times the strength of that used by Mr. Lister to make the catgut reliable. In the old methods of preparation Mr. Lister had got perfectly reliable ligatures; but in one case where he had supplied Mr. Pemberton with such a ligature a large abscess formed, and the ligature came away. In a case of double popliteal aneurism Mr. Bellamy tied one femoral with the aortic ligature, and with good result. The same operation performed on the opposite leg with the chromic catgut ligature supplied by Mr. Lister was followed by the formation of a sinus leading down to the ligature, the rest of the wound healing by first intention. These different modes of preparing catgut ligatures may suit one or other form of catgut, but not all, and therefore he said the catgut ligature was not a reliable one. Nor did experiments in blood serum touch the point, for the experiments should be made in the living body in the midst of the tissues.

PATHOLOGICAL SOCIETY OF LONDON.

Unilateral Hypertrophy of Head and Face.—Glioma of Cord, with Dilatation of Central Canal.—Fœtal Tumour.—Vesical Calculus in Dog.—Syphilitic Disease of Skull.—Malformation of Heart.—Cancer of Bladder.—Leucoderma.—Zeroderma.

THE ordinary meeting of the Pathological Society was held on Thursday, March 3rd, the President, Samuel Wilks, M.D., F.R.S., in the chair. There was but a small attendance, probably owing to the meeting not being held on the usual evening.

Mr. BARWELL showed the head and also a model of a case of Unilateral Hypertrophy of Head and Face. He met the boy, the subject of this deformity, accidentally six years ago. He was then about seven years of age. Last year he tied the right carotid artery just above the clavicle, more as a preliminary treatment than in the hope of bringing about a permanent cure. On the sixth day the boy died from secondary hæmorrhage. The condition was congenital, and the disproportion between the two sides was steadily increasing. The enormous development of the right side of face with the infantile character of left was the great characteristic, giving a very grotesque appearance. The tissue was soft, with a patch of ichthyosis of recent formation, and rapidly growing near the ear. The bones were also involved, as shown by casts of the upper and lower jaws. The cranial sutures and raphé of the tongue were pushed quite over to the left of the middle line. Was the cause some affection of trophic nerves, or of the middle coat of the arteries, which may have also led to the fatal hæmorrhage? Unilateral overgrowth of the head and face is not very uncommon; he had often seen it. Also overgrowth of right side of trunk, which is one of the causes of lateral curvature of the spine; it is very occasionally seen on the left side—not more than one in fifteen of the opposite condition.—Dr. N. MOORE asked Mr. Barwell whether there was any new growth in the large mass. The appearance was not like a new growth; but such might be its cause if the tumour arose very deep. He once saw a young woman with a very large right hand, the left being small, of natural size; her skull and the rest of her body were quite symmetrical.—Dr. WILKS asked if these cases were to be associated with cases of atrophy on one side, as in wryneck, and whether the pathology was the same in the two sets of cases.—Dr. GOODHART asked whether the boy was mentally sound.—Mr. BARWELL replied that he was sound, but ignorant. The nerve condition at the bottom of this case is not the same as in wryneck. The nervous condition in wryneck he thought to be more connected with the spinal nerves than with the sympathetic, and the appearance of the two is different—one is dwindled, the other gigantic. In cases of difference in length of limbs merely, the change may be explained by injury to the epiphyses. There was no tumour or new growth; the bones were all affected, and the ichthyosis and size of tongue showed that it was hypertrophy and not new growth. Some years ago he showed to the Society a case of overgrowth of the parts of the face supplied by the facial arteries. Ligature of these arteries did no good.

Dr. WHIPHAM showed a specimen of Tumour of Spinal Cord with Dilatation of Central Canal. The patient was a bricklayer, aged thirty-three, in St. George's Hospital, under Dr. Barclay. He suffered from numbness in both hands, with weakened grasp, especially on right side. He had worked in white lead. He improved under galvanism. Later on he had paralysis of arms, legs, and intercostal muscles; there was wasting on the right side, dropping of the hand, and the forearm was held up by the left hand. A large bedsore developed; later on he died of exhaustion. The post-mortem examination showed red hepatisation of left lung, congestion of right; upper end of cord much enlarged and fluctuant. This was found to be due partly to an infiltrating new growth, and partly to cavities in the position of central canal, lined by a shining membrane containing a soft gelatinous mass in minute structure resembling glioma. The central canal of the cord below the swelling was enlarged. The tumour in the upper part was glioma, there the lymphatics were dilated and filled with lymph, the normal nervous tissue being nearly entirely destroyed. No traces of the epithelium of the central canal could be found. In the dorsal region the anterior horns of grey matter were widely separated by nerve tissue, and the distended canal flattened; ganglion cells compressed. In part, however, the white nerve tissue was also evidently compressed, and homogeneous masses of serum were found. This case appeared to furnish one explanation of cases of cavities in the cord. Dr. F. Taylor has recorded a case without any new growth, but in this case the cavity was probably formed by the new growth spreading into and dilating the central canal.—Dr. HORROCKS asked if the superficial and tendon reflexes were tested in this case.—Dr. WHIPHAM replied that the case was under observation many years ago, before the days of these reflexes.

Mr. PEARCE GOULD read for Mr. C. Macnamara the description of a Tumour removed from a female child under his care at the Westminster Hospital, a photograph of the child and the tumour were shown. The child, two months old, had the tumour springing from the back of the sacrum and buttock; it had considerably increased since birth. Mr. Macnamara removed it by the chain écraseur after having expressed the blood from it by Esmarch's bandage, and reflected up two flaps of skin from the pedicle. The tumour was examined by Mr. Pearce Gould. The tumour, ovoid in shape, with an even surface, was covered with skin, which was raised in a thin, narrow, fringe-like band half round its base. Projecting from the left side was a curved finger-like process. On section one large cyst and several smaller ones were found, lined by a thin smooth membrane, and containing serous fluid. The greater bulk of the tumour was solid, and consisted of fœtal fat, in which bands of fibrous and unstriped muscular tissue were seen, and an irregularly-shaped jointed piece of cartilage, partly ossified, was embedded; the cartilage extended into the finger-like process as a chain of small nodules firmly jointed together. Mr. MACNAMARA stated that these tumours were of interest to surgeons, because it was sometimes difficult to determine whether their removal would be attended with serious injury to important viscera, and to pathologists because they formed a link of connexion between united twins and dermoid cysts. This tumour was evidently an impregnated ovum, which had not arrived at maturity, and had early become attached to the fœtus, of which it subsequently formed a part, and grew with its growth.—Dr. WILKS said that this case was no doubt the remains of another ovum; in many cases it was not at all clear what the origin of the tumour was.

Mr. TREVES showed a Vesical Calculus of a Dog which died of uræmia. It completely filled, and was adherent to, the bladder. The dog had convulsions and coma. There were frequent micturition, pain, passage of blood, and irritation at the end of the penis.—Dr. WILKS asked if the dog could jump. Sir A. Cooper used to make his patients jump off a chair, and if this produced pain it was held to be diagnostic of vesical calculus.

Dr. N. MOORE showed a specimen of Syphilitic Disease of the Skull from a man, aged forty. The whole surface of the calvaria looked worm-eaten. When fresh the little pits were filled with yellowish-red soft material, in structure like a recent gumma; the brain was unaffected. There were scars of gummata in liver. A very distinct scar on the penis and many on the legs, and necrosis of left thyroid cartilage also bore evidence of the existence of syphilis. During life there was very little sign of the disease of the bone, only two small patches on the scalp, which might have been mistaken for eczema. The skull resembled those found in barrows which have been deformed by the roots of plants, but the patches on the interior are not found in the bones altered by rootlets.—Dr. WILKS remarked that any signs of repair would distinguish these cases from those referred to by Dr. Moore. Were there no symptoms during life?—Dr. MOORE replied that there were none.—Dr. WILKS said that many cases of destruction of skull were considered to be due to mercury, but there was very little evidence—none, in fact, to prove this.—Dr. MOORE said there was no evidence of this man having taken mercury continuously at any time.—Dr. BARLOW remarked that the skull showed some changes quite unlike the action of rootlets; there was an eroded surface with slight thickening, and also a cicatrix in the bone. M. Parrot had not referred to this form of skull-syphilis as evidence of that disease in prehistoric times; but to a form with considerable hyperplasia of bone with little or no destruction of bone. M. Parrot's specimens show actual new osteophytic deposits, and this specimen did not throw a slur

upon M. Parrot's demonstration. All bones exposed to water and buried show a granular and osseous surface.

Dr. NORMAN MOORE exhibited also a very rare Malformation of the Heart, in which all four cavities communicated together. The patient was a girl, aged seventeen, who had enjoyed good health up to the age of seven, after which she had several attacks of rheumatic fever. She was admitted to hospital in a dying condition. There were found a systolic and a presystolic murmur at the apex, and a presystolic thrill. The impulse of the heart was heaving and irregular, and the chest wall was bulged over the heart. The septum ventriculorum was complete; foramen ovale closed; coronary sinus well developed. The musculi papillares of the mitral valve both arose from the outer wall, and were abnormally close together; the mitral cusps were fixed close to the aortic orifice, they were thickened, and had small growths upon them. The aortic and pulmonary valves were normal and competent; the aorta was healthy, and the pulmonary orifice was twice as wide as the aortic; coronary arteries normal; ductus arteriosus closed. On opening the pericardium the external peculiarities of the heart were enormous dilatation of both auricles, and of the right ventricle; moderate dilatation of the left ventricle. The bifid character of the apex, which was nearly as great as in Dugong's heart. The septum auriculorum did not meet the septum ventriculorum, and there was a large opening below it but above the flaps of the auriculo-ventricular valves, one part of each of which was attached to the septum ventriculorum just below that opening. Thus the auricles were in communication with one another, and each auricle with both ventricles. In a large number of cases of cardiac variety, as such cases may be called, there is some other departure from the normal, and in this case there was a large omphalo-mesenteric diverticulum of the ileum. In the post-natal attacks of acute rheumatism the very minute growths on the mitral and the slight thickening of the bone of the septum of the auricles probably occurred. The right side of the heart was free from any sign of endocarditis, which would also seem to justify the belief that the endocarditis of the left side took place after birth.

Mr. DAVIES-COLLEY showed a case of Epithelioma of the Bladder, with Calculus in Kidney and Bladder. A man, under Dr. Habershon's care in Guy's Hospital, died at the age of forty-seven. Twenty-one years ago he had a large stone removed from the bladder, and ever afterwards suffered from a pricking pain at the end of the penis. Five years before death he had passed blood, and Mr. Davies-Colley sounded him; no stone was found. These hæmorrhages were repeated many times. Last year his legs swelled, and he became very ill, and died in October with symptoms of gangrene of the lungs. Small patches of cancer were found in liver and lungs, and around one of the latter was a patch of pneumonia becoming gangrenous. The bladder was occupied by a shaggy mass, the size of the hand, which had spread into the lumbar glands, and had obliterated the vena cava. The left kidney was very dilated and occupied by a large branching calculus of triple phosphate. The point of interest was the occurrence of vesical cancer twenty-one years after the removal of a stone. This was hardly a coincidence. The pricking pain felt ever since the operation was probably due to a scar, which ultimately gave rise to cancer. The tumour was an epithelioma. The growths in the liver and lungs were not examined microscopically. Dr. Fagge had shown a case of cancer of the bladder due to frequent catheterism. He had under his care at the same time another patient with vesical hæmorrhages, who had had a stone removed from the bladder.—Dr. WILKS had seen a few cases of cancer of bladder with calculi, and several of cancer of gall bladder and ducts with biliary calculi; and Frerichs had told him that he had frequently noticed the latter association.—Mr. MORRIS asked how long the tumour in the bladder had lasted, and whether the stone twenty-one years before could be really the cause of a cancer so long after.—Mr. DAVIES-COLLEY could not say how long the cancer had lasted, but five years before death he had passed blood in his water, which, in his opinion, came from the bladder.

Mr. STARTIN showed two living specimens, one a case of Leucoderma, a man who had lived in Canada for three years. A year after coming home he noticed several symmetrical patches of skin and hair devoid of pigment. Sensation was perfect in these patches. The other was a case of Zeroderma in a child ten years old. Both palms and soles were affected with dense layers of hypertrophied skin; it began at the age of twelve months; there was no history of syphilis. The case was almost if not quite unique.—Dr. PAYNE asked if the general colour of the skin of the man with leucoderma was darker than usual. The two conditions of excess and absence of pigment were usually combined. The pigment in the darker part in one case examined was curiously near the surface, as if the pigment had been set loose from the Malpighian layer, and might be expelled at the surface and so cause the blanched patches of leucoderma.—Mr. STARTIN said there was no increased pigmentation.—Dr. WILKS asked if local treatment for the hand had been tried.—Mr. STARTIN was using liquor potassæ and spirit locally, and tonics and arsenic internally.

Dr. ABERCROMBIE showed a card specimen of Sarcoma of the Testicle, removed the same day by Mr. Morgan from a child four years old.

Mr. SHATTOCK showed a card specimen of a Congenital Sacral Tumour growing into the pelvis, sarcomatous in character.

Dr. HORROCKS showed a Heart removed from a young woman recently under Dr. Fagge's care, aged twenty-three. She was in good health up to the age of ten; she then suffered from rheumatic fever, scarlet fever four years later, and a year after rheumatic fever again, when there was well-marked evidence of valvular disease of the heart, systolic and presystolic murmur at the apex, with thrill. The mitral and tricuspid valves were found to be "button-hole" and thickened, but there were no vegetations; both auricles were dilated. It was an illustration of the facts elucidated by Dr. Fenwick; for the patient was a young woman, and there was a history of rheumatic fever. The stenosis, although sought for during life, was not recognised; and this case shows that that condition may exist without any signs to declare it. There was no special appearance of youth in this patient, which has been noted in others and much commented on.—Dr. WILKS said Dr. Fenwick had mentioned one case of tricuspid stenosis in which a presystolic murmur to the right of the ensiform cartilage was heard.—Dr. FENWICK said that in both the cases he brought forward such a murmur was heard. In thirty-two out of forty-six cases the murmurs heard had been noted, and in nineteen or twenty those at the xiphoid cartilage were different from those at the apex, in thirteen presystolic, and in six or seven systolic. He asked if there was any increased cardiac dulness on the right side in Dr. Horrock's case. This was very often found on account of the enormous dilatation of the right auricle. In twelve out of thirteen cases collected by Dr. N. Moore the patients were females. Dr. Coupland had sent him notes of two females, and Dr. Peacock also two females.—Dr. HORROCKS, in reply, could not say whether the cardiac dulness was increased to the right or left, but from post-mortem appearances he should be inclined to think the dulness greater to the left; the increased breadth of heart was mainly on the left side from the enormous left auricle; the heart, too, was pushed over to the left.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

Renewal of Upper Part of Femur after Removal for Necrosis.—Ataxy with Knee-phenomenon.

AT the meeting of this Society on February 28th, Mr. F. J. Gant, president, in the chair—

Mr. THOMAS BRYANT exhibited a female child, aged six, in whom the upper part of the femur, with its head, had been renewed after the removal of the orginal bone in November last. The case had been brought before the notice of the Society on the 26th of that month, and the preparation was shown, including the epiphysis of the right femur, neck, trochanter, and half of the shaft. The disease had been one of acute necrosis, and the femur with suppuration of the hip-joint, following an attack of acute periostitis. At the time of the operation in November the only evidence of periosteum was seen at the lower neck of the dead shaft, which was surrounded by an ensheathing casing of new bone; and as no attempt to form new bone at any other spot was possible, it was reasonable to conclude that there was no other periosteum present; for if there had been new bone would

have been formed by it as certainly as it had been formed about the lower end. After the operation in November everything went on well; the wound was kept clean by means of a drainage-tube and the washing by iodine water, and was dressed with terebine and oil. The limb was kept quiet and in a state of slight extension by means of the double splint with its elastic pulley. No elevation of temperature followed the operation or attended the progress of repair, and in less than a month the wound through which the bone had been removed had quite healed; indeed, the progress of the case was so rapid and satisfactory that Mr. Bryant said, had he brought the case forward to illustrate a new form of dressing wounds he might with some show of reason have held it forth as a marked example of its value, and been weak enough to suggest that such a result could not have been obtained by any other method than the one he was advocating. But during this time other changes were taking place, and from the present condition of parts these changes were clearly the formation of new bone, with a new joint, for within three months of the operation the case was found to present the same features as it now exhibits—that is, the complete reformation of the bone that had been removed with a new joint. This was demonstrated by the smooth movement of the femur in the acetabulum, and the perfection of the movements of the limb—flexion, extension, adduction, and rotation of the limb existing at the present time almost as perfectly as they do in a sound joint. The new bone was, however, about one inch shorter than the opposite. How this new bone had been reformed was a somewhat difficult problem to solve, since it seems very clear that there was no periosteum left by which such a physiological process could have been effected. Still, the fact remains that a new head, neck, and upper half of the femur had been remade, and for lack of a better explanation the author expressed his belief that this result had been brought about either *directly* by the effusion of new bone-forming material from the small ensheathing casing of new bone which surrounded the lower inch of the dead shaft; or *indirectly* by the catalytic action of this bone forming material upon the reparation matter which the surrounding tissues had found out. For his own part Mr. Bryant was disposed to think that the first explanation was the correct one, for it particularly coincides with a piece of experience he had acquired in dealing with a somewhat similar case some years ago. He brought the case before the Society as a unique one in his knowledge and experience, as a singular example of joint and bone repair under exceptional conditions, as a physiological problem for the Fellows of the Society to solve; and, above all, as a surgical case full of encouragement in the line of conservation, and valuable for future guidance in the treatment of joint and bone disease.—The PRESIDENT referred to the difficulties of arriving at a true explanation of the facts of this case, and thought the bone-forming properties of bone was not sufficiently recognised. He gave two instances which bore on this point, and which supported the view that in these cases bone was formed from the bone ends. In cases where no periosteum remained this was the only solution of the question, unless the new bone was formed by the surrounding tissue.—Mr. ADAMS considered the case unique. There was no doubt that the upper third of the shaft was regenerated, but whether there is a new head and neck, it is impossible to say. With regard to the formation of new bone, he thought periosteum may have been present, although in an altered condition, and that the subperiosteal tissues were engaged in the production of new bone.—Dr. CRICHTON BROWNE agreed with Mr. Adams, and referred to facts observed in skin-grafting in support of this view.—Mr. PEARCE GOULD inquired whether when the splint was first removed there was free motion in the joint.—Mr. BRYANT replied, that no doubt the view that the periosteum originated this new bone was the more probable one and most taking, but (difficult as it was to believe) there was no periosteum left, nor was there any altered or gelatinous periosteum to be seen. He therefore thought that this solution of the difficulty could not be entertained. In reply to Mr. Gould he said the splint had been removed for ten weeks, extension being kept up during that time within the limits of pain; when the splint was removed, rotation, abduction, and adduction were as perfect as now. He still recommended that the limb should be used as little as possible until the new bone had acquired strength.

Dr. HERON showed a male patient, forty-nine years of age, suffering from Ataxic Symptoms with marked knee-phenomenon. There was no history of syphilis; and the man was healthy up to three years ago, when he had severe gastralgia, followed by diarrhœa. Then followed numbness in both hands, and some months later in the toes of both feet, and typical ataxic symptoms developed. Sexual power diminished, and became extinct. Spasmodic twitchings of legs and cramps occurred from April to June last. Since the beginning of 1880 he has had sensation of cord-like constriction around the trunk at two levels. No change in fundus oculi; pupils natural; tactile sensation diminished, especially in fingers; marked incoördination; knee-reflex excessive in both legs, most markedly so in the right; ankle clonus readily elicited, especially on the right side; front tap no response; diminished muscular irritability to both currents in the intrinsic muscles of the hands and in the muscles of the legs and feet. Dr. Heron regarded the case as one of sclerosis of the posterior root-zones of the crossed pyramidal tracts and of portions of the anterior cornua.—Dr. DOWSE thought the case anomalous, and alluded to a similar one. He did not think it was locomotor ataxy, although the posterior roots were affected, but as one of chronic transverse myelitis; in which opinion Dr. Crichton Browne concurred.

Dr. WOAKES then read a paper "On the Treatment of Goitre by Fluoric Acid," which will be published *in extenso* in our columns.

Reviews and Notices of Books.

Disease of Liver and Portal Vein. Vol. IX. Dr. H. VON ZIEMSSEN'S Cyclopædia of Medicine. English translation. London: Sampson Low & Co. 1881.

WHEN Bartolini, in his controversy with Riolanus, wrote his celebrated epitaph on the liver, triumphantly announcing that its dominion was henceforth at an end, the mortuary scroll inscribed on the escutcheon of the deceased organ should have been *Resurgam*. Certainly the physiological investigations of the last quarter of a century have more than restored this organ to its former importance, and the result has been that more attention has been drawn within the last few years to its diseases and derangements by practical physicians than during the whole period that had elapsed since its interment in the middle of the seventeenth century by Bartolini. Thus during the last decade we have Dr. Habershon's Lettsomian Lectures on the pathology and treatment of some of the diseases of this organ, Dr. Murchison's Croonian Lectures on its functional derangements, as well as the second edition of that physician's Clinical Lecture on the diseases generally of that organ. Nor must we omit to mention the valuable observations contributed by the late Dr. Stephen H. Ward, embodying that gentleman's clinical experience, derived from a long connexion as visiting physician to the Seamen's Hospital, an institution which affords a peculiarly rich field for the study of hepatic disease.

The present decade opens with two important works—that by Dr. Wickham Legg on bile, jaundice, and bilious diseases, and that which forms the subject of the present notice. The volume commences with an account of the topography, structure, and function of the liver, deserving of praise from its clearness and brevity. The subject of jaundice is next treated of, and the causes that produce that symptom under various conditions are briefly but lucidly discussed. The author (Ponfick) adheres to the view that the jaundice appearing in phosphorus poisoning belongs to the "hepatogenous" variety, and is to be explained by the swelling of the secreting cells combining with catarrh of the finer ducts to produce obstruction. This is borne out by experimental fact, since in the livers of dogs poisoned by phosphorus the finer ducts within the liver are found always plugged with a colourless mucus, which hinders the descent of the bile. Icterus menstrualis, a peculiar malady first described by Senator, in which the jaundice recurs regularly at intervals of four weeks, is also placed in the same class; the jaundice,

however, in this case, he does not attribute to catarrh of the bile-ducts, but to sudden changes produced in the blood-pressure of the portal system. Whether this explanation is the correct one the present state of our knowledge makes it impossible to decide. The influence of menstruation and gestation upon the functions of the liver is a question which ought to be made the subject of experimental research. The connexion between acute yellow atrophy and pregnancy, periodic jaundice and menstruation, and the important observation made by Prout, that in various uterine affections he repeatedly met with a temporary excess of urea in the urine, point to an intimate sympathetic relation between the two organs. Thierfelder contributes a succinct account of the various forms of hepatitis and of acute and simple atrophy of the liver. With respect to the treatment of hepatic abscess we are surprised at the scant references made to the employment of the aspirator either as a means of diagnosis or for relief, nor are the valuable rules laid down by Murchison with regard to the best method of operative procedure under different conditions even alluded to. The same paucity of information with regard to the radical cure of hydatid cysts is also manifest in Heller's article on this subject. Schueppel and Leichtenstein contribute a conscientious but ponderous article on cancer of the liver. The former also writes on the subject of amyloid and fatty degeneration of the liver and diseases of the biliary passages, gall-stones, and diseases of the portal vein. The article on amyloid degeneration contains nothing that is novel, and omits some points of interest, whilst that on diseases of the biliary passages and portal vein is probably the best, as it is the most interesting, article in the work. In conclusion, we would observe that this translation gives the most complete account of diseases of the liver, in their entirety, that we at present possess in the English language, but we qualify this by remarking that that part which deals with the clinical aspect of hepatic affections cannot be compared with Murchison's work in this department, whilst that portion of it which treats of matters of physiological and pathological interest is behind, in respect both of labour and recent information, the exhaustive and able treatise of Dr. Wickham Legg.

Conscious Matter. By W. STEWART DUNCAN. Pp. 128. London: David Bogue. 1881.

THIS small and unpretending, but very suggestive volume, is an attempt to show that the various systems of psychology which are now generally received, including even those of Bain and Herbert Spencer, rest upon an unstable basis, and that the ordinary statements which imply that mind is the antithesis of matter, that all things are resolvable into the subjective and the objective, or into the *ego* and the *non ego*, are wholly and entirely inadmissible. Mr. Duncan maintains that it is much more logical to hold that the physical world is constituted by matter in the dynamical or energetic phase, and that the mental or psychical world is to be regarded as a sentient or feeling phase or property of matter. In working out his views he shows, first, that so late as up to the middle of the present century psychologists held that in man the body was animated or inhabited by a separate soul, but that the tendency of modern thought and inquiry has been to reject the hypothesis of an immaterial soul, and to demonstrate that it is only a property of matter. The point that has been often urged to prove the existence of a separate soul is that no analogy can be shown to exist between mental and physical phenomena. But, as Mr. Duncan pertinently observes, the antithesis between mind and matter is not complete or perfect; it really consists only in opposing matter, or matter *plus* energy, to a property of matter. He observes that the word "physical" has been employed in several senses, sometimes meaning pure dynamics, or the play of forces, sometimes matter apart from either force or feeling, or any quality except mass or extension, and sometimes the two just mentioned in combination, as in the cases of moving bodies. He limits it himself to "force" or "energy." In like manner the term "mind" has been regarded as an *immaterial* substance, capable of feeling and thinking, and also as a certain condition. Now, he goes on to say, it is consistent with clear thinking to contrast one substance with another, as spirit with matter, if there are two substances, or it is consistent to contrast one property with another property, as feeling with consciousness, or consciousness with action. But if it be allowed to contrast one of the properties inhering in a single substance, as mind or feeling, with matter *per se*, then it must be allowed as equally relevant to contrast its companion property, energy, with matter *per se*, in which case it must be further allowed as equally reasonable and consistent to say "dynamics is opposed to matter," as it would be to say "mind is opposed to matter." Instead, then, of "objective" being the true antithesis of "subjective," in the new psychology we should have "active" as its opposite. "What," he asks, "are the two phases or properties inherent in each living man, and therefore in all matter? Is not one a subjective mental, conscious, feeling phase? And is not the other an active, energising, dynamical, physical phase? Where, then, is the use of the term 'objective' or '*non ego*'?"

Mr. Duncan then proceeds to point out that, so far from there being no points of analogy between the physical, as represented by "force," and the mental or psychical, many analogies may be shown to exist between them: as, for example, that they are both destitute of space extension; that they are both related to that which has space extension—to wit, matter; that both have the characteristic diversities that each have, the quality of time, extension, or duration, and so on. He then adduces various reasons for believing that matter is single, and, in fact, is itself only a group of forces, more or less complex, in equilibrium. When this equilibrium is disturbed, the atom or group of forces is alive in the sense of being the seat of momentary feeling, and perhaps even sensation, though it may immediately relapse into unconsciousness. It has, so to speak, its own *ego*. The bodies of the higher animals are made up of a number of such atoms, which are bound together to form a compound or comprehending *ego;* and hence the author arrives at the unlooked-for conclusion—considering that it is the outcome of uncompromising materialism—that if the universe is to be regarded as "an organic whole," as many philosophers admit, there must be an *all-comprehending ego* which represents or is constituted by the synthesis of universal feeling, while the physical aspect of the material universe is, as a whole, the synthesis of universal energy.

Silverlock's Medical Reform Book. Edited by GEORGE BROWN, M.R.C.S. London: H. Silverlock.

WHATEVER value this little volume might otherwise possess is negatived by a very indiscreet attempt to compile a list of "Consulting Physicians and Surgeons, London and Provincial," for the use of general practitioners in times of emergency. This idea is a mischievous one, and the manner in which it is carried out may be inferred from such facts as the following. The List of Consultants in some instances does not include the names of several of the best-known practitioners, and in other instances the best-known writers are omitted.

GEORGE H. PORTER, F.R.C.S.I., has been appointed by his Excellency the Lord Lieutenant a member of the Board of Superintendence of the Dublin Hospitals, in the room of the late Christopher Fleming, M.D.

THE LANCET.

LONDON: SATURDAY, MARCH 12, 1881.

THERE is only too much reason to conclude that the Government have resolved to have no medical men in the Royal Commission for investigating the working of the Medical Acts. With every disposition to believe in the desire of the Government to appoint Commissioners of ability and impartiality for this work, we cannot but fear that in this matter they are taking a course which will satisfy neither the public nor the profession, and which will be very unsatisfactory in its results. Why should the medical profession, as a profession, be excluded from a Commission for considering the working of the Medical Acts? Is the question to be investigated so simple that it can be mastered entirely by lay Commissioners, or is it a rule in appointing Commissioners to exclude from them persons of special knowledge? Both of these questions must be answered in the negative. The existing machinery, or rather nineteen machineries, for diplomatising medical men, are as complex and various as anything could well be. As such they will be hopelessly unintelligible to lay Commissioners. Under these circumstances the lay Commissioners will have to be guided and inspired. By whom? By the Medical Council, which is supposed to have some official monopoly of knowledge and some official right of advising Government on its own efficiency. This is the very way in which Governments have been misled and the question of Medical Reform obstructed for ten years. And it is very difficult to understand how a Commission of laymen only will be able to escape from the delusion that they are to take counsel of the Medical Council, or of one or two ubiquitous members of it who seem to have no occupation so systematic and no pleasure so great as that of opposing the will of the profession. We repeat that a Commission of laymen only will be hopelessly embarrassed by the number and complexity of questions and interests that will have to be considered in connexion with this subject.

Secondly, is it a rule in appointing Commissioners to exclude persons of special knowledge? We do not pretend to much learning in this matter; but we have enough to give a decided negative answer to the question. Two illustrations occur to us at the moment, not to mention others. A Commission exists at present to investigate the rules made by the judges for the working of the Judicature Acts. Surely, this is a subject in which the public are most seriously interested? Of whom is the Commission composed? Entirely of lawyers, either solicitors or barristers! Again, there is at present at work a Royal Commission on Tonnage, one-fourth of which, at least, consists of shipowners. These cases are only two out of a host of instances that we might quote to show that persons of special knowledge are generally included in Commissions. Why should it be otherwise when medical legislation is contemplated — legislation that has reference chiefly to the education and registration of medical men, subjects in regard to which even educated and enlightened laymen are apt to be singularly apathetic and ill informed?

We venture most respectfully to urge on Lord SPENCER and his colleagues that the profession will feel most deeply hurt by excluding its members from this Commission, which may affect for generations the efficiency and the rights of medical men. Even laymen are amazed at the idea of excluding medical men. We grant that members of the Medical Council should be excluded. But there are a dozen men outside of the Medical Council, and sufficiently independent of medical corporations, who could render the most valuable assistance to the Commission, and whose presence in the Commission would be a security to the profession that its feelings and interests were not overlooked. We can only leave the matter with the Government. We repeat our belief that it wishes to do what is right; but we repeat our questions too: What is the hope of lay commissioners understanding the working of nineteen medical corporations, and of a General Medical Council in which they all meet to support and belaud each other? And what is the reason for dealing so exceptionally with the medical profession in constructing a Royal Commission likely so deeply to affect its future?

ON the 7th inst. the Lord Chancellor delivered judgment on the appeal to the House of Lords in the case of the Hampstead Small-pox Hospital. He decided, with the concurrence of the lords sitting with him, that the Metropolitan Asylums Board, the appellants, were not shielded from any consequences of their acts affecting injuriously the private rights of individuals by the Acts of Parliament under which they were created and exercise their functions, any more than if they had been an association of private individuals. The appeal was, therefore, dismissed, and the costs of the proceedings were imposed upon the Board.

Thus ends this lengthy and expensive litigation. The lower Court found, in fact, that the hospital at Hampstead had been conducted so as to become a nuisance to the plaintiffs—in other words, persons occupying houses in the vicinity of the hospital; the highest Court now finds that the legal grounds upon which the Metropolitan Asylums Board sought exemption from certain consequences of its acts are delusive. It is difficult to overrate the important effect the decision of the House of Lords will exercise upon the provision of hospitals for infectious diseases, not only in the metropolis, but also in the country generally. In the metropolis it will confirm the dead-lock which already exists, if it does not lead directly or indirectly to the closure of other hospitals of the Asylums Board, and will paralyse all efforts of that Board with reference to the disease until probably fresh legislation on the subject can be effected—if, indeed, it does not lead to the reorganisation of the Board—a consummation devoutly to be wished. In the provinces the decision will probably give rise to a crop of litigation, and, what will prove a more generally spread evil, will give a plausible excuse to unwilling authorities not to exercise their powers as to hospital provision under the Public Health Act, 1875.

In considering the results of this Hampstead case, it is to be trusted that neither the Legislature nor the public will lose sight of the circumstances which underlie the case, and

which have brought about consequences so disastrous to public health administration as concerns sanitary hospitals. It has been too much overlooked during the whole progress of the case, that the original constitution of the Metropolitan Asylums Board rests at the root of the whole matter. This Board was created wholly for Poor Law purposes, the hospitals which it erected and controls were also created for like purposes, and the law under which they were called to act limited them to their Poor Law functions. So far as these functions had relations to public health, it was indirectly in relation to their duties with regard to pauper sickness, and particularly infectious sickness. The Board was placed by the Legislature under the supervision of the Poor Law Board, a Board accustomed to govern itself by the straitest interpretations of law and the practice of routine, and which having in earlier days initiated officially public health administrative reform in England, had afterwards become distinguished by the fatality which had accompanied its association with any public health or sanitary matters. It had signally failed in the one public health piece of administration entrusted to it—namely, public vaccination. It had equally failed in the one sanitary matter for which it was responsible—the sanitary administration of workhouses.

Under these circumstances the Metropolitan Asylums Board infectious disease hospitals were carried out without sufficient regard—if, indeed, any—for the public health considerations involved in them, and they had to be administered and supervised by two bodies, one of which had no knowledge of what was included in such considerations, and the other had proved itself unfitted for them. Hardly had the epidemic of small-pox which began in 1870 manifested itself before the unsuitability of the two public bodies who were entrusted with the charge of the great hospitals which had been erected by the Metropolitan Asylums Board for their task was made manifest, and this curiously enough at Hampstead. Incidents which then occurred at the hospital there, and which should have at once led to investigation, were put aside without investigation, on the plea that it was not within the province either of the Asylums Board or the Poor Law Board; and although both bodies were fully aware of the necessity of investigation under the circumstances, no appeal was made by either for assistance to the department of Government which could have given efficient help in the matter—namely, the Privy Council.

But the Poor Law Board was presently merged into the Local Government Board, and it seemed likely that the Board exercising the functions of both Central Poor Law Authority and Central Public Health Authority in the kingdom would, while the epidemic of 1871-72 was quite fresh in the memory, take steps to ascertain the meaning of the rumours and statements at Hampstead, which even then threatened the consequences which have now happened. But it was otherwise. The Local Government Board gave not the least attention to the matter, and continued to treat the subject, as it has continued to treat it until the last few weeks, as if it were a Poor Law matter solely. The successive public and judicial inquiries as to the Hampstead Hospital failed to arouse it to a true sense of its importance; and so great has been the judicial blindness the Board has displayed, that we are by no means sure that even the disastrous results of the Hampstead case will clear its vision.

It is with the part played by the Local Government Board and the Metropolitan Asylums Board that the Legislature and the public have most concern. The former throughout have failed to recognise the respective parts of Poor Law administration and Public Health administration in the question at issue; the latter have proved themselves utterly unfitted to the combined Poor Law and public health duties which have been thrust upon them in the administration of their hospitals—duties which have been given a sort of legislative sanction in the Poor Law Amendment Act, 1879. As a Poor Law body they would doubtless have performed, and as relates to the Poor Law have probably performed, their work admirably. But when their original duties have been brought into contact with public health considerations, they have failed miserably. It seems to us clear that if the functions of the Asylums Board are to be continued, the Board should undergo reorganisation. The Local Government Board will now have to take up the question of sanitary hospital accommodation in London, and doubtless also in some respects in the provinces, in a different and much wider aspect than it has hitherto considered the subject, and let us hope that they will at least profit by their recent experience.

THE subject of the physique of our soldiers under the present short-service system in the army has been brought prominently forward by Sir FREDERICK ROBERTS in a recent speech at a Mansion House dinner, and has been discussed in an article in the *Nineteenth Century* by Sir GARNET WOLSELEY. Sir FREDERICK ROBERTS complains that our soldiers are too young, and that they are in consequence wanting in discipline, *esprit de corps*, and power of endurance. In support of this view he stated in some detail the result of his observations on the condition of the men who served under him in the Afghan war, and in the justly celebrated march from Cabul to Candahar. He found that the newly arrived drafts, consisting almost entirely of young men, broke down under the continued strain and fatigue which the older and more seasoned soldiers were able successfully to contend against; and from this he argues in favour of reverting to the old system of long service. If it were practicable, there can be no doubt that it would be greatly to the advantage of the army if no recruits were enlisted under twenty-five years of age, when they have attained full growth and development, and if their services were secured for a period of ten years. We should then have an army unexceptionable in point of physique, with powers of endurance, and, if judiciously trained, also with habits of discipline, and *esprit de corps*. But we fear such a state of matters is a consummation to be wished for, but never realised. We believe it would be perfectly impossible to recruit our army under such conditions. Most men at twenty-five have entered upon some course of life, have developed for themselves some line of business, and it would require a much stronger inducement than the pay or social position accorded to soldiers to lead them to exchange for a military career. The greater portion of the men thus joining the army would be the failures of civil life—in too many instances failures from the lack of those qualities and habits

which are most desirable in the army. But the question presents itself whether, as this primary constitution of the army appears unattainable, much of the advantage pertaining to it might not be obtained by reverting to the old system of long service—say for twenty-one years; for we do not believe it would be possible to introduce the system of life service again into this country. The quality of the recruits has not deteriorated with the introduction of enlistment for short service; for on comparing the returns of 1865 with those of 1878, we find that in the former, when the minimum period was ten years, the proportion of recruits under twenty years of age was 5488 in every 10,000, while in the latter year, under the existing system, the proportion under twenty was only 4699. Again, looking at weight as a measure of development, the proportion of recruits under 120 lb. was 2597 in 1865, and 1452 in 1878 in every 10,000; so that during the later period the age and development were both more favourable than during the earlier. The falling off complained of therefore must have depended on the removal of the older soldiers to the army of reserve, their places being of necessity supplied by newly raised recruits. The advantage to be gained by reverting to the system of long service would be that the proportion of young men serving in the ranks would be considerably reduced, their places being filled by men of mature age, longer under discipline, and consequently more able to resist the hardships incident to field service, and more likely to be steady and well in hand under discouraging circumstances. But with the question of enlistment for long service arises the very important one of the possibility of maintaining under it an army of reserve. It appears to be a very general feeling that such an army is imperatively required to prevent a recurrence of those scares which have frequently of late years seized the public mind, and that there should be some security against the possibility of being wholly unprepared in case of an attack upon our shores. A good nucleus of such a reserve has been made, and it now becomes an important question in what way it can be maintained with the least interference with the efficiency of our standing army. Mr. CHILDERS proposes to adopt two measures for this purpose: the first being to raise the minimum age on enlistment from eighteen to nineteen years, and the second to increase the period of service with the colours from six to, in most instances, eight years. The first of these measures, while it will reduce by one-fourth the number of immature lads enlisted, will doubtless create some difficulty in raising the requisite number of recruits in the year. We would also caution Mr. CHILDERS that unless some additional precaution, such as the establishment of a minimum weight, be introduced, the rule with regard to age will be systematically broken through, as is well known to be the case under the present rules with lads of seventeen, who invariably, unless when very slight and likely on that account to be rejected, declare themselves to be eighteen years of age. It is true Mr. CHILDERS states "that no man who (though nineteen) has not the physical equivalent of that age will be accepted;" but he has not stated how that is to be gauged; and we fear that unless some definite measure, such as weight, be adopted, the regulation will be of no value. The addition of the two years to the other end of the scale will of course be an advantage, as it will retain men arrived at maturity and well disciplined. We confess we should have been well pleased had Mr. CHILDERS seen his way to revert to the old limited-service period of ten years, but he has stated that in his opinion such a course could not be followed without the adoption of a scale of pensions, "such as no House of Commons could be expected to sanction."

Mr. CHILDERS stated that "no man under twenty years of age, or with less than a year's service, will in any circumstances be sent to India or a tropical station." He does not appear to be aware that this has been the established rule for a good many years past, but that, like many other Horse Guards' regulations, it has been systematically disregarded, as shown by the returns presented to Parliament. If, then, this rule is to be of any practical value, his first care must be to take steps to prevent it being evaded whenever it is found convenient to do so. With a view to meet the complaint of the difficulty of getting good non-commissioned officers, thoroughly up to their work, Mr. CHILDERS proposes to allow them to renew their service with the colours—corporals to the full period of twelve years, and sergeants for a second term of nine years, subject only to the veto of the War Office in each case. He also proposes to improve their condition so much as to make their continuance in the army desirable to them. If in this manner he can secure the services of the best men it will go to some extent at least towards overcoming the difficulty complained of by Sir F. ROBERTS of want of discipline and steadiness, for to good non-commissioned officers much of the efficiency and steadiness of the men is due. We most sincerely trust that Mr. CHILDERS may be successful in his endeavours to improve our standing army, while at the same time he maintains an adequate army of reserve, and that the improvement in the condition of the non-commissioned officers may be such as to lead to the enlistment of a good class of men, who will look forward to promotion and to having an "assured military career" ending with a pension, and with the prospect of Government employment in a civil capacity after their discharge.

NO one who has seen men of different mental calibres and orders of development, of dissimilar types of physical organisation, with natures and personal characteristics barely comparable, exhibiting in their diverse fashions the quality we call "courage," can doubt that this attribute or property of life which we are apt to look upon as a simple virtue, is, in fact, composite in its character, made up of various parts or properties, and that it may spring from either or several of a multitude of causes. The courage of the unreasoning and barely sensate boor who faces a danger of which he is ignorant or unappreciative, is not the courage of the man of culture and high sensibility, who is keenly alive to his peril, and yet dares it. The courage of the hardy mountaineer bears little resemblance to the corresponding quality as exhibited by the pampered and debilitated dweller in cities. Nor is the difference solely one of degree. That strong exercise of the will which enables the man of acute feeling and intelligence to discharge his duty under circumstances of almost overwhelming anxiety, has scarcely anything in common with the stolid immobility of the man who neither feels nor recognises the situation of peril in which fortune has placed him. Nor is the will always the dominant faculty in the physico-mental process

by which the result—i.e., conduct characterised as courageous—is produced. Other faculties are often in the ascendancy, and, to use precise terms loosely, organised matter is as often the prime factor as a trained or naturally intelligent and potent mind. In short, what BICHAT says of sleep is true of courage—the general is made up of the particular. One man has courage because he happens to possess a highly developed nervous system gifted with the stability and vigour of health. Another exhibits this quality in consequence of the mature and well-knit development of his muscular system; while a third may triumph over the defects and deficiencies of his "bodily" nature by the force of his mind. There are many forms of courage—mental, nervous, muscular, and, we may even add, visceral—that is to say, courage springing from the excellence and stability of any particular part or system of the being which, for the moment, asserts itself, and, so to say, assumes control. Courage displaces cowardice when the *better* part of a man's nature gains the upper hand, and grasps the reins of conduct; but that better part is not always the mental—or the conscientious will,—it may be, and often is, a relatively ignoble element of the general constitution that comes to the rescue in a critical emergency, so that, if we may paraphrase a truism, the man is saved from being a poltroon as by the skin of his teeth.

Mental courage may take the form of an exceptional effort of the Will, subjugating the turbulent instincts and impulses of fear, and enabling the individual to assume and preserve a bold exterior, while within his whole being is quaking with fear. In one sense this is the highest form of mind-courage triumphing over a weak and shrinking body. Or the mental habit may be such that the consciousness, as it were, inhibits the perceptive faculties so completely that the supreme cerebral centres are not impressed with the keen intelligence of surrounding perils. This is what happens when the mind is so concentrated on the work in hand as to forget its danger. Enthusiasm, passion, revenge, ambition, or a strong sense of devotion, will throw the consciousness into such a mood that it is not harassed by fear, although occasions of fear abundantly powerful to disturb it are present. The danger is there, and the mind is so constituted that it must feel fear, but its attention is arrested and diverted. If it were not for this method of courage-induction, the majority of educated and sensitive men would probably figure as cowards; but the need of personal action or the strong stirring of the emotional nature which occurs—say during an engagement—supersedes and, by diverting the consciousness, suppresses fear. A man of strong passions or relatively weak sensibilities—which amounts to the same thing—can readily establish this mental absorption, which shuts out the impressions of danger, and so appear courageous. The difference between the dogged courage of half-cultured races and the set purpose of highly educated soldiers illustrates this position. The diverse workings of mental courage are, however, so well understood that it is not worth while to dwell upon them. It is the part played by the lower elements of man's nature in the production of valour which we are interested to elucidate.

A courage dependent upon, and arising out of, nervous force, is common, and expresses itself in steadiness of conduct in action without the easily recognised evidences of an overmastering excitement, or even absorbing interest, in what is going on. The nerves not only are under control, but are themselves disciplined; they do not scare the consciousness inopportunely; they do not play it false, or betray it in a moment of urgency. The highest token of power is a self reserve of force, and the integrity of nervous development shows itself in a deep tone of resilience the opposite of the state of irritability, which is, according to the old formula, a disposition to act without the power to act with. The possession of a stable nervous system will often enable an individual who is lacking in will-force or "moral courage" to stand without flinching in the face of deadly danger.

Again, there is a muscular courage due to the excellence of the voluntary system of muscles. It may, at first sight, seem difficult to distinguish this quality from that last indicated, the relations of nerve and muscle being of the closest, when the two are studied under conditions of activity. There is, nevertheless, a sharply defined difference between the two qualities, as viewed from the physiological standpoint. The characteristic property of muscle in a high and healthy degree of development is sustained contractility, or, which does duty for that operation of force, the power of bringing the functions of individual fibres and fasciculi into such co-ordination that the result may be a steady exercise of power. This steadiness is not the expression of nerve strength, but of muscle strength. Nerve force calls muscular tissue into action, and endows it with motive force, but the *manner* of muscular contraction is more directly dependent on the integrity of muscular development and the excellence of the fibre than the force moving it. Muscular sense or consciousness, automatism and tonicity, are all more directly properties of muscular tissue than of the nerve tissue by, or through, which it is supplied with the energy of action. An apt illustration of these conclusions is found in the difference between two men exposed to the same danger—the one possessed of a strong nervous system, free from the recognised tokens of mobility, the other having a vigorous muscular system in a high state of development. The first will go into action with mental and nervous fortitude, but with a hesitating gait and awkward bearing, with trembling fingers and staggering limbs, while the other, in spite of an even stronger sense of fear, will be steady in his movements. Moreover, the first man is generally pale, the latter either unchanged in colour or slightly reddened, not, however, to any marked extent, face-flushing either indicating vaso-motor depression or an exaltation of cardiac force, the result of passion.

There is also a form of courage which is visceral, or perhaps it would be more correct to say healthy viscera form the physical basis of a state which in its integrity gives rise to an equanimity of temper and a firmness that render the consciousness tranquil and self-protected, and establish a physico-mental condition the reverse of that described by MARSHALL HALL as "the temper disease." It must suffice to sketch the outline of our argument, leaving the scientific memory to fill in the details.

The moral of the view we propound may be pointed in a few brief sentences. It must not be assumed that such "courage" as commanders, or troops, show on the field is of a simple and voluntary character, or is always due to the same cause, still less that it is generally, or even often, the effect

of an effort of the Will. The body is not merely the instrument of the mind, but an integral part of the mind itself, if not practically its base and centre. Sometimes one part of the nature and sometimes another is in the ascendancy. Individuals vary with their own states of health and "feeling," and with the circumstances by which they are surrounded. There are also radical differences of physico-mental constitution whence spring great and contradictory differences of nature and character. Courage is quite as much a result of mental and physical training as of congenital qualities. Healthy development, and health as a state, are essential to courageous acts and bearing. Meanwhile general inferences as to courage and generalised methods of producing it, are certain to fail in individual instances, because while one man may evolve courage as an effort of the will, another, though equally strong-minded, cannot appear courageous because his nervous, or muscular, or visceral system is not in a condition to contribute its quota to the general result. The history of heroism in different ages, read in the light of development and with regard to the domestic and general habits of the people, will be found to supply food for reflection of the highest suggestive nature. It will teach lessons which it would be well to lay to heart in any reorganisation to which our army may hereafter be subjected. The time has not arrived when the physiologist and the psychologist are deemed worthy to have a voice in councils of State; but in relation to matters involving questions of *development* it is strange that the obvious teachings of science should be entirely disregarded or set aside. Experience may have heaped together large stores of information; but there are branches of knowledge which only science can supply.

OUR knowledge concerning the source of the liquor amnii is somewhat uncertain, and two theories are held with regard to it. The first is that it is the product of the secretion or transudation from the maternal vessels in the uterus; the other, that it is the product of the secretions of the fœtus. Accurate knowledge upon this subject is of very great importance, for its elucidation lies at the foundation of the pathology of some of the diseases of pregnancy and intra-uterine life, and involves the whole question of the activity of the kidneys in the fœtal state. Experiments have been made upon pregnant animals with a view to solving the problem, and the most recent are those conducted by WIENER in Breslau, the results of which are published in a paper in the *Archiv für Gynækologie*.

Two or three kinds of experiments have been performed. In the first, a solution of sulph-indigotate of soda was introduced into the jugular vein of rabbits in an advanced state of pregnancy, and the animals killed at intervals ranging from a quarter of an hour to two hours and a half after the injection was made. It was then found that the liquor amnii in all the cases contained the colouring material used, its presence being proved by the microscope. In none of the cases was the colouring material found in the organs of the fœtus, with the exception of the stomach and intestines, into which it had obtained admission by the process of swallowing; none appeared to have passed by the fœtal kidneys. The quantity of the material found in the liquor amnii was small, and this appeared to be due to its elimination by the maternal kidneys. To obviate this the kidneys were extirpated before the injection was made, and in cases thus treated a large quantity of it passed into the amniotic fluid. When animals in the early stage of pregnancy were similarly treated, hardly a trace of colouring matter was found in the liquor amnii. To decide what part the fœtus plays in the production of the liquor amnii, the colouring material was introduced into the body of the fœtus. A quantity of the coloured solution was injected into the amniotic sac and the fœtus made to swallow, but it was found that the material did not in this way enter the blood of the fœtus. It was then injected under the skin of the back of the fœtus. On subsequent examination, the colouring material was found in the kidneys of the fœtus in precisely the same situation as it was found in those of the mothers in the first series of experiments. It was traced there as soon as twenty-five minutes after the injection, and in one case a drop of coloured urine was discovered in the bladder. In these experiments, moreover, the liquor amnii was coloured blue.

From these data WIENER argues that the fœtal kidneys are not only active during fœtal life, but that they secrete rapidly, and are the chief source of the liquor amnii. He maintains, moreover, that during early life the fluid comes exclusively from the embryo until the fœtal membranes come into intimate contact with the maternal tissues, and the placenta is formed. At first the fluid is derived from the cutaneous vessels of the fœtus, afterwards from the Wolffian body, and later from the kidneys. After the membranes have come into intimate connexion with the uterus, a portion of the fluid comes from the maternal vessels. WIENER explains the varying results of chemical analysis of the liquor amnii, and the occasional absence of urea in it, by the statement that the urea in it continuously undergoes decomposition or diffusion into the maternal blood.

Besides the experiments referred to, other evidence bearing upon the question is brought forward and discussed, especially that furnished by cases in which occlusion of the urinary passages had occurred during fœtal life. In these cases considerable quantities of urine have been found behind the occlusion, the secretion of which, according to FEHLING, is pathological. This opinion of FEHLING is, in our opinion, successfully controverted by WIENER. It cannot be questioned after the evidence brought forward, that both the maternal vessels of the uterus and the secreting organs of the fœtus contribute to the production of the amniotic fluid, but the proportion the contributions of each bear to one another cannot be regarded as finally settled. The evidence adduced by WIENER in favour of the fœtal kidneys being the chief source, although indirect in its character, goes far to prove his view; but until further and more conclusive evidence is adduced we cannot go beyond the statement that the liquor amnii is the joint produce of the vessels of the uterus and of the fœtal kidneys.

AT a meeting held at Chelmsford for the purpose of promoting the establishment of a cottage hospital in the town, Dr. Vipan stated that out of 260 cottage hospitals which had been founded in Great Britain, only eight had failed, and those not from want of funds, but on account of theological disputes between members of rival sects.

Annotations.

"Ne quid nimis."

DEATHS FROM CHLOROFORM.

TWO instances of death from chloroform have been recorded during the past week. One occurred at Swansea. The wife of a commercial traveller, aged nineteen, was undergoing an operation for a uterine tumour. Death occurred after the influence of the anæsthesia had been maintained for an hour and three-quarters. It is very desirable that the details of the case should be published, since it is unusual for chloroform to be fatal so long after the commencement of its administration. The other case, which occurred at the Bradford Eye and Ear Hospital, was of a more ordinary character, inasmuch as death occurred just as the patient was getting under the full influence of the anæsthetic. The patient was a man, aged sixty, who was about to be operated on for cataract, and he had been run over and slightly injured about a fortnight before—a fact which was not known to the surgeons until after his death. Mr. Denby appears, from the account of the inquest, to have administered the chloroform on a towel, a small quantity of brandy having been previously given. Apparently a drachm of chloroform was first administered: the patient was still for two minutes, and then struggled for two minutes more, and then again became quiet. Another drachm of chloroform was poured upon the towel, but part of it was spilt. After the second dose had been administered for about a minute and a half, it was noticed that the face became pale. Mr. Denby asked Dr. Bell, who was holding the pulse, how the pulse was, and he said that it had suddenly ceased. The heart was found to have ceased beating, and all efforts to restore animation were fruitless. The circumstances of the case were thus of the usual character. The accident was ascribed to heart disease by the verdict of the coroner's jury, but the fact does not appear to have been established by post-mortem examination. With regard to these and all other deaths from chloroform, unavoidable under the circumstances as they doubtless are, the question arises, Were they altogether unavoidable? Would the patients have died had ether been used instead of chloroform? This is a question to which a positive answer cannot be given; but since it is certain that the proportion of deaths from ether is far fewer than from chloroform, it is probable, in the same degree, that any given death from chloroform would not have occurred had ether been given instead. No surgeon, who sanctions the administration of chloroform instead of ether, can acquit himself of some measure of responsibility for the death of his patient, unless he can prove that the special circumstances of the case rendered it, for the patient's sake, desirable that the increased risk, if small, yet measurable, should be run, and no other consideration should be held to justify the employment of chloroform.

FILTHY FOOD.

THE Birmingham sausage case, to which attention is drawn by one of our correspondents in another column, opens up a very wide and important question, and one which we have frequently discussed before. The population of this country being ahead of its powers of production, the people are driven, to a very considerable extent, to the consumption of preserved and tinned viands of various kinds. We have often pointed out the necessity of *every* tin or packet of preserved provisions bearing a label setting forth the exact nature of its contents, and until this is done it can hardly be possible that persons can be convicted of cheating and adulteration, or that the many opportunities of dishonesty which now exist will not be taken full advantage of. The Birmingham sausage-monger was convicted of putting in his sausages material which was not fit for human consumption owing to its putridity. This is a statutable offence, and we are glad that the offender was sent to prison without the option of paying a fine. It is doubtful, however, whether he could have been punished for putting horseflesh into his sausages. A "sausage" is a thing of acknowledged variability of constitution, and possibly a beef sausage might still be regarded as such, even though the beef bore but an infinitesimal proportion to the "flavouring." The same remarks apply to the various "potted meats," "preserved milks," "patent foods," &c. The public ought to be protected, and it is certainly proper that the percentage compositions of manufactured articles of consumption should be affixed to their containing vessels and papers. Of potted meats we need say nothing, except that respectable firms ought to be glad to protect themselves voluntarily by a percentage composition label. We think the exact amount of sugar, or other preservative, in every tin of condensed milk, should be stated; and we think it is high time, to take only one example, that the State should cease to help in the gulling of the public by allowing a pennyworth of lentil-meal to be sold for three-and-sixpence. It is becoming a question also whether manufacturers and importers of preserved and cured foods should not be placed under the Excise laws. At all events, it seems absolutely necessary that inspectors, similar to excisemen, should have right of entry into the premises of manufacturers of sausages and potted meats, for it was only by a happy accident that the Birmingham fraud was discovered. Inspectors of imported foods, whether tinned or preserved, seem also a crying necessity, in the face of what we may call the trichinosis scare and the Welbeck bacilli.

CINCHONA CULTIVATION IN CEYLON AND JAMAICA.

THE estimate of the cinchona cultivation in Ceylon, which we quoted in our issue of Jan. 29th in a review of Mr. Markham's recent work, is fully confirmed by a writer in the *Colombo Observer*, who states that the number of cinchona trees planted in the island in 1880 was not less than twenty millions. It is computed that, allowing for failures, these trees, together with those planted in previous years, will yield by 1885 not less than ten million pounds of dry bark a year, and, assuming other sources to be equally productive, the supply will then exceed that at present available by at least the above amount. The question is asked, "Will the demand equal the supply, or will the bark become unsaleable except at unremunerative prices?" That the price of cinchona bark will fall seems highly probable, and, in the interest of humanity, it is greatly to be desired that it should fall; but it cannot be doubted that the consumption will vastly increase with reduced prices, and it is not likely that the supply will exceed the demand to such an extent as to render the culture unremunerative.

It is not alone from the East that the plant is being successfully cultivated. A very encouraging account has been received from Jamaica, where the Government is wisely taking every means for extending the cultivation. We have before us a number of the *Jamaica Gazette* containing an advertisement offering the supply, from the public gardens, of cinchona seed—of crown bark at 5*s.* per oz., and of red bark at 3*s.* per oz. An ounce of seed will, it is estimated, produce 20,000 seedlings, which, if carefully raised, will plant five acres of land. Or young plants are offered, ready for transplanting into nurseries, at 21*s.* per box of from three to four thousand. Mr. D. Morris, Director of Public Gardens and Plantations in Jamaica, has also issued a broadsheet containing hints and suggestions for raising the

plants from seed, and establishing cinchona plantations. He points out the various elevations at which the cultivation of the different species of bark may be most advantageously carried on, and the kind of soil which suits them best. It is very probable that vast tracts of land hitherto lying uncultivated on the northern slopes of the Blue Mountain range will prove suitable for the plants. The Government plantations already furnish bark to the London market, which fetches a good price. The sale of one consignment in August last, amounting to about 6000 lb., realised £1300. During the year 1879–80 no less than 27,399 lb. have been shipped. It is interesting to observe that the average price of both Jamaica and Ceylon bark was higher than that of the South American specimens, showing that the valuable properties of the trees are much improved under cultivation. The highest price of the Jamaica bark is a little in advance of the highest price of the same kind of bark grown in Ceylon. The similarity of climate in the two islands is shown by their long rivalry in the production of coffee, and it seems likely that a similar rivalry will occur in the growth of cinchona. Ceylon at present has the start, but it is hoped that as large tracts of land and the necessary labour are now available in Jamaica, the requisite capital and energy to overcome the initial difficulties of the enterprise will not be wanting.

The competition of the East and West Indies is stimulating the South American exporters to renewed action. "The result is," says Messrs. Rucker and Bencraft in their last monthly circular, "that hitherto untouched forests have been attacked, new ranges of mountains have been explored and tapped, and we are threatened with supplies of considerable magnitude from new sources." About 4000 packages of a new bark have already been placed in the market. It comes from the United States of Columbia, and is described as being of a somewhat peculiar character, although of fair quality. It yields about 2 per cent. of quinine. It is said by a well-known authority not to be the product of any species of cinchona tree. Very strong evidence will be required to prove the startling fact that any other than cinchona bark will yield quinine.

NEUROPATHIC EMPHYSEMA.

DR. BROWN-SÉQUARD exhibited at a recent meeting of the Société de Biologie the lungs and heart of a dog which he had killed a few hours before by suddenly crushing its head. Extreme emphysema of the lungs had been instantly produced. During the last ten years he has repeatedly observed that the mechanical stimulation of the base of the brain is much more energetic than is galvanic excitation as a means of producing certain inhibitory phenomena and effects on the vaso-motor nervous system. He has shown that faradisation of the pneumogastrics always causes emphysema of the lungs in the dog, the cat, the rabbit, and the guinea-pig, evidently by causing contraction of the smaller bronchial tubes, which drives the air with sufficient force into the pulmonary vesicles to rupture them. He has also shown that this emphysema may be produced equally well when the thorax is open if the trachea is ligatured. But in these experiments the emphysema produced is slight compared with that which is caused by mechanical excitation of the medulla when it is suddenly crushed. A guinea-pig was also exhibited in which there was no emphysema, although the medulla had been crushed, because the pneumogastrics had been previously divided. In other experiments, in animals of different species, the spinal cord was first divided at the level of the third or fourth pairs of cervical nerves, and the destruction of the brain caused emphysema just as if the spinal cord had been intact. Dr. Brown-Séquard took the opportunity of pointing out that the mechanical stimulation of the brain, when it is suddenly crushed, produces effects which are not only more considerable than those caused by galvanisation of the medulla and other parts of the brain, but also effects which differ from those which can be caused by electricity. One of these is the inhibition of the heart, which is in general such that it is not followed by any return of activity. Another result is the production of abundant pulmonary and bronchial hæmorrhages. There is also an almost complete inhibition of spinal reflex action in the cervico-dorsal region, and an extreme augmentation of this action in the dorso-lumbar region.

REDUCTIO AD ABSURDUM.

AN inquest held on the 4th instant at Stamshaw, near Portsmouth, illustrates the occasional inutility of a coroner's inquest for determining the cause of death. It seems that a dairyman named Stallard, aged fifty-six, who had sometimes suffered from cough, after doing his daily work went to bed well, and died in the night with symptoms of asphyxia. Mr. Ford of Portsmouth, who was called to the deceased, gave evidence at the inquest, and in answer to questions from the coroner as to the probable cause of death, replied: "I am unable to say; the man was well up to the day of his death, and the winter cough was not enough to account for his death." The coroner: "I don't ask you what was the actual cause of death, but the probable cause." Mr. Ford: "I am unable to say." After some altercation between Mr. Ford and the coroner, the former was permitted to withdraw. The coroner, in summing up, said that if the jury wished it he would order a post-mortem examination. A juryman asked "if the coroner, with his fifteen years' experience, would not give the probable cause of death," and the coroner replied that, although he might, he did not think it was his duty to do so. The jury then returned a verdict of "Death from natural causes." One of the jury suggested that "Mr. Ford should be censured," and this sentiment was echoed by several. Another juror asked the coroner if Mr. Ford would receive the fee. The coroner said that that was a question which would remain for his future consideration.

There is no doubt that in this case Mr. Ford was wholly in the right, and the coroner wholly in the wrong, for there was not a particle of evidence as to the cause of the deceased's sudden asphyxia. Popular opinion is always ignorantly opposed to a post-mortem examination, but that it was really necessary in this case there can be no doubt. If a post-mortem were not necessary no inquest was necessary, and we could almost wish that the coroner would withhold Mr. Ford's fee for evidence in order that the matter might be brought before a higher tribunal.

INFLUENCE OF HEREDITY ON THE TRANSMISSION OF LESIONS.

M. MASOIN has lately been investigating the heredity of certain lesions, and has published his results in the *Bulletin de l'Académie Royale de Belgique*. He has excised the spleen in several generations of rabbits, and made them couple. He then compares the relative weight of the spleen to the body at large. In healthy rabbits the average proportion of the spleen to the body is 0·1028 to 100, and never descends lower than to 0·0645 to 100. Now he finds that in the rabbits of the first generation the spleen has not disappeared, but that it has become atrophied, the proportion being 0·0549 to 100, the latter number being taken as representing the total weight of the body. It is obvious, then, that it has undergone considerable diminution in size. It might be expected that the members of the second generation of rabbits in which the ablation of the spleen had been effected would present a still smaller and more atrophied

organ, but this is not so, for the diminution, though well marked, remains the same as in the first generation. M. Masoin has also investigated the influence of digestion on the turgescence of the spleen. He has satisfied himself that a moderate meal does not occasion swelling of the organ, whilst, if a large supply of food be taken, as in a famished animal, it undergoes considerable enlargement. In common with various other observers, he finds that it attains its maximum volume about five hours after the ingestion of food. When the spleen is completely removed it does not undergo reproduction, nor has he noticed the enlargement of the lymphatic glands observed by so many authors to occur consecutively to the operation.

DR. PIROGOW.

AT a recent meeting of the Society of Medical Practitioners of St. Petersburg, M. Berthenson, in view of the approaching jubilee of Dr. Pirogow, gave an account of that distinguished surgeon's life. It would appear that in 1828 M. Pirogow, having passed through the course of medicine at Moscow, went to Dorpat to complete his studies. Five years after he graduated there as Doctor in Medicine. It was then proposed to him to take the chair of Surgery in the University of Moscow; but he was prevented from accepting this offer by a long and painful illness. After his recovery, the Moscow chair having been filled up, he was placed in the chair of Surgery of the University of Dorpat, which was regarded as a great distinction. The beginning of his special celebrity dates, however, from the year 1840, when he was requested to organise the clinical teaching in the hospitals of St. Petersburg. He accepted the task, entered upon it with much enthusiasm, and carried it to a successful issue. When the war in the Crimea broke out he was placed at the head of the Russian military medical service in the field, and rendered inestimable services to his country. After the war Dr. Pirogow became curator of the Academic Circonscription of Odessa, and subsequently of Kiew. In his new position he proved himself an ardent partisan of university autonomy, and sought to cultivate closer relations between the professors and students. In 1870 Dr. Pirogow laid the foundations for the services rendered by the Russian Red Cross Society in the Franco-German war; and during the late Russo-Turkish war he acted as guide and counsellor of the sanitary service of the war.

UNQUALIFIED PRACTITIONERS AND PRIVATE DISPENSARIES.

THE death of another person attended by an unqualified medical practitioner, attached to a dispensary in Church-street, Edgware-road, belonging to Mr. Kisch, has been the subject of a coroner's inquiry. Dr. Hardwicke very strongly expressed himself on the subject, but not, we think, too strongly. The death of a young girl of nineteen, without the benefit of regular medical advice, though that advice had been sought for in the regular way, is a public scandal. Mr. Kisch explained that he generally attended cases himself, but had failed here in consequence of illness. He would, however, have cleared himself much more effectually from his great responsibility if he had explained why, in his absence, he could not get a medically qualified friend to see a patient so ill. Further, it would have been satisfactory if he had stated the relation of his residence to the dispensary, and the distance between the two places. Practically the impression is left that patients at this dispensary are under the care of an unqualified practitioner, and the public will be apt to agree with Dr. Hardwicke that "the system of private dispensaries with unqualified medical men is vicious, and ought to be discountenanced in every way."

A CASE OF MOVABLE LIVER.

IN the *Wiener Med. Blätt.* is recorded an observation accidentally made on a physician by Dr. Chvostek. There were no symptoms whatever of anything wrong in the abdomen, and there was no history of violence or of any occurrence that threw light upon the condition. When the man stood up, the upper and posterior border of the liver was felt to come forward from under the margin of the thorax, and to be six centimetres and a half below the tip of the xiphoid cartilage in the right parasternal line, and one centimetre below that point in the left parasternal line. The left end of the liver was plainly felt through the abdominal wall, and from it the anterior, or rather the lower edge of the liver could be traced arching down to the right, being in the middle line fifteen centimetres below the xiphoid process, and in the right nipple and axillary lines respectively seven and one-and-a-half to two centimetres below the edge of the thorax. The liver did not markedly descend on taking a deep inspiration. In the horizontal posture it could be replaced under the ribs to a considerable extent. In lying on one side the organ fell to some extent towards the dependent side. The lower edge of the suspensory ligament could be felt tightly stretched, but this produced no pain, and so completely absent were all symptoms that the condition was only discovered accidentally.

MEDICAL SOCIETY OF LONDON.

THE dinner to commemorate the 108th anniversary of the Medical Society of London was held at the Criterion, on Tuesday, March 8th, the President, Mr. Gant, presided. He was supported by the Presidents of the Royal College of Physicians, the Royal College of Surgeons, the Obstetrical and Hunterian Societies, Major Duncan, and about eighty Fellows of the Society. In responding to the toast of the learned Societies, Dr. Matthews Duncan pointed out the danger of the formal debates now so popular overshadowing the more valuable original papers read at the ordinary meetings of the Societies, one page of which was often of more worth than a whole volume of discussion. The two silver medals of the Society were presented, one to Sir Joseph Fayrer for his paper on Hepatic Abscess, the other to the Senior Honorary Secretary, Mr. D. H. Goodsall. Instrumental and vocal music was excellently rendered by Drs. Althaus and P. Boulton.

ABUSE OF MEDICAL CHARITY IN BELFAST.

A REPORT of a Committee of the Ulster Medical Society is before us on the Abuse of Medical Charities, from which it would appear that many persons for whom the medical charities of Belfast are not intended avail themselves of the advantages of the various institutions, to the injury of the persons themselves and of the medical profession. This evil, the Committee reports, exists to the greatest extent in the out-door department of the several hospitals. No facts are given in illustration of these views, but supervision and investigation are recommended. We would strongly support the recommendation. The evil is an undoubted one, but the examination of it should be so careful as to carry conviction to those even who believe in nothing but old and free kinds of charity. The eighth proposition of the Ulster Medical Society's Committee will rather surprise by its very obviousness, "That we disapprove of any member of the hospital staff receiving fees for services rendered to any patient whilst under hospital treatment." If the abuse of hospitals be such as the Committee states it to be, it may seem hard on the medical staff not to exact fees from patients who can afford to pay; but clearly they should raise objections to them as hospital patients, and refer them back to their own medical advisers.

UNQUALIFIED MEDICAL PRACTITIONERS.

WE have before us a very excellent paper on the great evil of practice by unqualified persons in this country. The author, Mr. David Edgar Flinn, treats the subject both ably and gravely. He thinks the evil not only great but increasing. As medical officer of health for the Brownhills Urban Sanitary Authority, he testifies that over one-fourth of the individuals whose deaths are registered are attended by unqualified persons. His great complaint is that regularly qualified medical men are associated with these unqualified persons; that sometimes a partnership is entered into; sometimes the use of the name of the qualified man is allowed; and sometimes, even, a medical practitioner sells his practice to an unqualified man. These are facts within the knowledge of Mr. Flinn, and they call for very serious consideration. He alleges that medical men act so often with a view to the annoyance or injury of a brother practitioner. He advocates the establishment of Medico-Ethical Societies for holding up and holding high those principles of honour and dignity which have always been dear to the profession, and which no medical man can violate without injury to both himself and his profession. We entirely agree with him when he says "it is the duty of all medical men to study the ethical and moral laws regulating their profession."

"THE MEDICAL DIGEST."

WE are glad to learn that Dr. Neale is preparing a new edition of his valuable "Medical Digest," published originally by the New Sydenham Society five years ago. It is intended to bring the work up to the end of the present year, and it will then contain over one hundred thousand references to original and editorial articles that have appeared in THE LANCET, and other medical journals, during the past thirty years. In its new form we should hope that the work will be more generally appreciated. Hitherto its value has been recognised by comparatively few persons; and when issued without the restrictions necessarily imposed upon publication by a Society, it will no doubt appeal to a large, and perhaps more discriminating circle of readers.

WESTMINSTER HOSPITAL.

THE lectures on Systematic Surgery and Practical Surgery, at Westminster Hospital, have up to the present been delivered on alternate years and conjointly by Mr. Cowell and Mr. R. Davy. For the future the two courses are to be given each year, and Mr. R. Davy is appointed sole lecturer on Practical Surgery and Minor Surgery, while Mr. C. Macnamara is to be Mr. Cowell's colleague in the chair of Systematic Surgery.

AT the distribution of prizes to the students of the Punjab Medical College on Nov. 20th, two or three matters of interest were mentioned by Surgeon-Major E. Burton Brown, the Principal. In memory of the late Dr. Neil, 1200 rupees have, it appears, been collected by his pupils, the interest of which is to be devoted to the purchase of two silver medals, to be called the Neil Memorial Medals, to be awarded to the students who pass the best examination in anatomy and surgery respectively. Dr. Brown also announced that the Nawab of Bahawulpur had presented to the medical school the liberal sum of 10,000 rupees to form a fund to provide scholarships to be called the "Grey-Bahawulpur," in honour of Major Grey, the late political agent of that district. It is satisfactory to note the interest taken in the school by the Lieutenant-Governor of the Punjab, Sir R. Egerton, who presided at the distribution, and whose remarks on the occasion were warmly appreciative of the value of medical studies.

A LARGE and influential meeting, presided over by Mr. Cæsar Hawkins, was held in the board-room of St. George's Hospital last week, at which many of the medical and surgical staff of the hospital and the old pupils and friends of Mr. G. D. Pollock were present, and at which it was resolved —"That a scholarship be endowed in connexion with the Medical School of St. George's Hospital as a testimonial of respect and regard of the associates, pupils, and friends of the Mr. Pollock, on his retirement from the position of surgeon to the hospital, and that the said testimonial be called 'the George Pollock Scholarship,' the professional and other friends of Mr. Pollock being invited to subscribe."

WE are informed by Mr. Pearson Hill, the prime mover in the proceedings against the Metropolitan Asylums Board *in re* the Hampstead Small-pox Hospital, that his costs will amount to between four and five thousand pounds. The costs on the other side cannot be much less than double that sum. As no provision was made in the Act of Parliament, under which the Asylums Board was constituted, for the defraying of expenses incurred in litigation, it is a pressing question whether the costs in the proceedings just concluded can be charged to the ratepayers.

A RUMOUR has been widely circulated of late to the effect that Professor W. T. Gairdner intends standing as a candidate for the Chair of Pathology in Edinburgh University. We are glad to be able to state, on excellent authority, that there is not the slightest foundation for this rumour—fortunately for Glasgow.

THE President and Council of the Faculty of Physicians and Surgeons of Glasgow have appointed Mr. David McVail, M.B., Lecturer on Medicine in the Glasgow Western Medical School, to be the next Faculty Lecturer. His subject will be "The Physiology and Pathology of Respiration."

AN investigation by the guardians into what appears to have been a frivolous charge against Mr. Henry Grace, medical officer of the Bristol Workhouse, has resulted in the passing of a vote of confidence in their medical officer by the board, who "desire to express their full confidence in his skill, attention, and ability."

THE Secretary of State for War has appointed Onslow Robert Richmond, Esq., M.R.C.S.E., L.R.C.P.L., to be Assistant Visiting Surgeon for Gravesend, under the Contagious Diseases Acts, 1866 to 1869.

THE *London Gazette* of Tuesday announces the nomination of Dr. Alfred Henry McClintock of Dublin to be, for five years, a Member of the General Council of Medical Education and Registration, in place of Dr. Alfred Hudson.

ROYAL LONDON OPHTHALMIC HOSPITAL. — The annual meeting of the governors of this hospital was held on Tuesday, when the report read represented the financial condition of the institution as satisfactory. The subscriptions of the past year had nearly equalled those of the preceding year; whilst the donations, on the contrary, exhibited a falling off. Various additions to the internal arrangements of the hospital had been made, and the medical tuition had been rendered more complete by the establishment of classes for the special study of the anatomy of eye diseases.

AN election for a physician to the Hospital for Incurables, Dublin, in the vacancy caused by the decease of Dr. Peele, will be held on the 17th inst. There are a good many applicants for the post, the emolument of which is sixty guineas per annum.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bristol (*City and County*).—Mr. Davies reports a death-rate of 20·0 per 1000 population during the year 1880, and expresses the opinion that the sanitary condition of the city, as indicated by the returns of mortality, had not been unsatisfactory, either in comparison with the returns of former years, or with those of other large centres of population. The returns, however, show "a very wasteful destruction of infant life," of which a great part, Mr. Davies thinks, is "clearly attributable to ignorance and neglect." Scarlet fever is the chief subject of comment both in Mr. Davies' annual summary and his report for the fourth quarter of 1880. He confesses his inability to deal effectually with the disease armed only with the powers sanitary authorities at present possess, and he considers that we ought to make some sacrifice of our ideas of personal liberty to arrest its ravages. He suggests that—1st. It should be made compulsory on the landlord of every house with a case of scarlet fever in it to send notice of the case to the sanitary authority. 2nd. That the sanitary authority should, on receipt of such notice, offer hospital accommodation for the patient or patients at a reasonable rate of payment, at a hospital provided by the sanitary authority. 3rd. That in case of refusal of removal of such patient by the parents, guardians, or friends, notice in the form of a caution to the public should be attached to a prominent part of such house or premises, showing that the house is infected with scarlet fever. 4th. That all ingress and egress to and from such houses should be regulated by rules made by the sanitary authority, and approved by the Secretary of State. 5th. That in case of the removal of a patient into hospital for isolation, the parents or guardians of the patient should have the power to appoint the medical attendant of the patient, if they do not wish to avail themselves of the services of the ordinary medical attendant.

Bradford (*Yorks*).—Mr. Butterfield, in his report for the fourth quarter of 1880, returns an average annual birth-rate equal to 33·1 per 1000 population, and an average annual death-rate equal to 20·5. The most prevalent zymotic disease during the quarter was scarlet fever, and it appears that the number of cases sent into the fever hospital was greater than during any previous epidemic. Mr. Butterfield has the following observations on the hospital:—"The large district in which the hospital is situated, and in which are included the deaths which occurred in that institution, shows a lower mortality from this disease than Bowling. It is a fact well known to all who have had experience of fever hospitals that the removal of scarlet fever patients from the close and confined air of an ordinary bedroom to the airy and well-ventilated wards of a hospital is in itself a very powerful remedy. There are few diseases which require for their proper management more copious supplies of fresh air than scarlet fever, and yet it is not at all uncommon to find cases of this disease boxed up in rooms from which fresh air is excluded as if it were something pernicious and deadly. While the patient is made to breathe and rebreathe a poisoned atmosphere, slightly flavoured with carbolic acid or chloride of lime, reliance is placed on drugs, which are rarely useful and often mischievous, rather than on perfect cleanliness and abundant ventilation."

Peterborough (*Rural*).—Mr. Sinclair Thomson estimates the population of the district at 22,300, and gives the death-rate for 1880 at 15·2 per 1000 inhabitants. Outbreaks of scarlet fever and of measles seem to have been the principal sickness events of the year, nevertheless the "wooden hospital" of the rural sanitary authority does not seem to have been used. A local outbreak of enteric fever in one village shows the existence in connexion with the disease of states of insufficient drainage and neglect of privies too common in rural districts, but which were here amended *after* the outbreak. Mr. Thomson has the following observations on excrement nuisances:—"The prevention of excrement nuisances in our villages and rural districts, where there is no regular system, is a subject demanding serious consideration. I believe the water-carriage system is rarely suitable for country districts, because the sewage can only be properly dealt with where there exists a good supply of water, a good sewer, and some arrangements for rendering the sewage harmless at its outfall. Where the water for flushing has to be brought by hand I have frequently found the pan very foul, the seat wet, and the syphon pipe blocked. It is desirable that houses in the country should be provided with dry earth or ash-closets."

Tamworth.—Dr. Herbert J. Fausset reports for the year 1880 a death-rate of 22·0 per 1000 inhabitants in this borough. It is obvious from his report that the Sanitary Authority is by no means as careful in the performance of its duties as it should be, and that indications of sanitary negligence abound in the municipal district. A curious instance of the perverse administration of the authority is afforded by the fact that, in 1876, with the view of diminishing the nuisance from midden-privies in the town, 227 pail-privies were introduced on the Rochdale system, and that these are so mismanaged as to have become as great nuisances as the midden-privies. Dr. Fausset writes of "the continuous cropping up of cases of typhoid fever," and of "the present alarming outbreak" of that disease, and states that the outbreak must be ascribed to impure water, defective drains, and inefficient and careless removal of excremental filth.

Brentford.—Mr. J. Williams reports for 1880 a birth-rate of 38·9 per 1000 inhabitants, and a death-rate of 17·47 per 1000.

Coventry.—Dr. Mark A. Fenton reports a death-rate in this urban district of 21·1 per 1000 inhabitants, and a birth-rate of 32·3. The death-rates for the decade ending 1870, and for the decade ending 1880, were stationary (21·0), and upon this Dr. Fenton observes it "would appear to prove that the application of the Public Health Act has been followed by no beneficial results." But it must first be shown that a stationary death-rate in the particular circumstances is not equivalent to an improvement, and this is not done. The morbid event calling for chief consideration during the year was infantile diarrhœa. An epidemic of that malady in the months of August and September is described as disastrous. Dr. Fenton made an inquiry into every fatal case, and his results may be summed up in the statement of improper feeding concurring with high temperature, and in half the cases an atmosphere polluted with accumulations of filth.

Hereford (*City and County*).—Dr. Vavasour Sandford is able to write of progressive improvement throughout his district in 1880, a marked decrease in the rate of mortality in each of his sanitary districts, "proving the benefit derived by all classes in this county from the Public Health Act being enforced." Dr. Sandford holds that "public schools are the *hotbeds* [of infectious diseases], and ever will remain so, until the Legislature enforces the timely information to the medical officers of health that infection exists in a house or family."

Sittingbourne (*Urban*).—Mr. H. G. Sutton reports scarlet fever as exceedingly prevalent in 1880, and expresses the opinion that until we have compulsory registration of infectious diseases our efforts to deal with this disease and measles must be foiled. He writes of a "spacious" infectious disease hospital for the district being in progress of erection. Infantile diarrhœa was very fatal during the high temperature of the month of August. The temperature facilitated the fermentation and decomposition of the food, often unsuitable, given to infants, and Mr. Sutton thinks that ladies might do much good in instructing the mothers among the labouring classes in preparing infants' food properly. The death-rate for the year was 16·3 per 1000 inhabitants.

Sittingbourne (*Rural*).—Mr. H. G. Sutton reports the death-rate of this district for 1880 as 15·3 per 1000 estimated population, and the birth-rate as 34·5. The district suffered in common with the urban district from scarlet fever and measles. The infectious disease hospital referred to in the urban report is for the use of the rural district also.

Scarborough.—Dr. Taylor reports for the quarter ending the 31st of December, 1880, a death-rate in this town of 18·81 per 1000 inhabitants.

THE MORTALITY OF ASHTON-UNDER-LYNE.

The high death-rate which obtains in Ashton-under-Lyne was recently made a subject of question in the House of Commons; and it is proposed by the Local Government Board to direct a medical inquiry concerning the matter. Portions of the annual report of the medical officer of health of the town have been published in the local

journals, and on reading them it is quite apparent why the death-rate of Ashton-under-Lyne should be high, but not equally apparent why it should have been held necessary to bring this swollen mortality before the House of Commons, or set in motion the medical investigation machinery of the Local Government Board. It is evident, indeed, that the local sanitary authority of the town is kept fully and ably informed of those sanitary defects in it which must prove conducive to a high rate of mortality; and whatever be the cause of the sanitary evils of the place, it is not a lack of knowledge of their existence. Ashton-under-Lyne has many of the structural defects of old Lancashire towns, still retains the filthy and immeasurably unwholesome midden-privy system, has imperfect drainage and a not impeccable water-supply, and contains localities in which both the houses and the individuals living within them are overcrowded. The usual concomitants of these conditions are measles, diphtheria, whooping-cough, scarlatina, and fever; and although neither of these diseases has taken on any very exceptional prevalence in the town, each of them, as well as fatal diseases in general, contributes so steadily to the general mortality as to contribute very markedly to a serious total. Bad trade has also lately contributed to the mischievous effects of the unwholesome local conditions. It is the old story, we apprehend, of a sanitary authority too busy in prosperous times to carry out the intimate sanitary administration of its district systematically, and in bad times too depressed and too anxious to spare itself expenses. Publicity, particularly in Parliament, may serve to supply a stimulus to a better action on the part of the sanitary authority; but any way it seems that it is the local administration that is in fault, not the knowledge of what is required to be done.

NOTIFICATION OF INFECTIOUS DISEASES ETC. IN THE METROPOLIS.

The Vestry of Kensington have issued a circular inviting the Metropolitan Vestries and District Boards of Works to appoint delegates to consider at a Conference the advisability of concerting measures to obtain by legislation: "(1) The compulsory disclosure to nuisance authorities of all cases of such dangerous infectious diseases as small-pox, scarlet fever, &c.; (2) an amendment of Section 26 of the Sanitary Act, 1866, so as to provide increased facilities for the removal to hospitals of persons suffering from dangerous infectious diseases, and being without proper lodging or accommodation enabling them to be properly isolated at home; and (3) an enactment for depauperising the relief afforded by way of maintenance, medical treatment, &c., to persons removed for the purpose of isolation to infectious disease hospitals; and for making the support of all such hospitals in the metropolis a charge on the Metropolitan Common Poor Fund." At the request of the vestry, Dr. Dudfield has prepared a special report on these subjects, setting forth their views, and designed to facilitate the discussion of them. Should not the provision of hospital accommodation have preceded the discussion of "notification," &c.? And is there not something inconsistent, at the least, in this movement for "notification of infectious diseases," when the vestries and district boards of the metropolis have so egregiously neglected to make provisions for the isolation of these diseases, without which the "notification" is mainly a sham?

ABERYSTWYTH: A FASHIONABLE WATERING-PLACE.

Aberystwyth is to be congratulated. It is fond of claiming position as "a fashionable watering-place." According to the *Cambrian News*, it may also claim position as one of the filthiest of watering-places. The two positions are by no means irreconcilable; fashion and filth constituting a charming alliteration, which it is evident the Town Council of Aberystwyth think must add to the attractions of the place. Guide-books have much to say about the "pleasantly clean" aspect of the town; but the *Cambrian News* shows it to be a whited sepulchre—in fact, exhibits it as a more or less promiscuous accumulation of houses, filth-heaps, and cesspools, cheek-by-jowl, in which the filth-heaps predominate. Our contemporary is severe upon the local sanitary authority, the Town Council; but, after all, the Town Council may have more in view than it has been credited with locally. If we are preparing here in the metropolis an exhibition of sanitary appliances for the International Sanitary Congress of this year, may not the Aberystwyth Corporation be contemplating for the same Congress an exhibition of insanitary conditions to relieve which the appliances have been devised? Anyway visitors will have the chance of studying them there under the most charming circumstances of surrounding scenery. Medical men, however, will act wisely in erasing the name of Aberystwyth from the list of "health-resorts" for some little time to come.

The Metropolitan Asylums Board, in their formal answer to the deputation regarding Fulham hospital which recently had an interview with them, deny that the statements submitted to them show that the hospital had been a source of dissemination of the disease in the houses in the vicinity. "The percentage of disease admitted (from the whole borough)," the Board says, "to the hospitals of the managers in the epidemics of 1870–72, six years before the building of the hospital, was in excess of the epidemic during which the hospital was in actual operation." As if the "whole borough" were in question! We hesitate to characterise in terms such as it deserves this contemptible prevarication on the part of a public body.

A curious event has happened at the Colchester Workhouse. An old man there, very ill, had a period of somewhat prolonged unconsciousness, during which the attendants believing him to be dead, made the necessary arrangement for "laying out" the body, and notice of the death was sent to his friends. The man, however, revived during the preparations for laying him out, and did not die until the next day. Instructions have been given by the guardians that in future bodies shall not be laid out until death has been certified by the medical officer.

Bristol, following in the wake of other big towns, is beginning to give attention to the sanitary requirements of the class of houses which do not usually occupy the attention of the local sanitary officials, the responsibility for their sanitary condition being held (and properly so) with the owners. Mr. Henry Masters, architect, has been lecturing in the city on the subject, and he expressed the opinion that in Bristol, as in London, there were but a small proportion of houses fit to live in, from a sanitary point of view.

At a recent meeting of the Metropolitan Board of Works a request was preferred by the Fulham District Board for permission to erect a temporary hospital for small-pox at Wormwood Scrubs. The request was refused by twenty-two votes to one. Wormwood Scrubs has been set apart by Act of Parliament as a place of public recreation for ever, and it seems doubtful whether the Metropolitan Board have the power, even if they were willing, to grant the request.

Instructions have been given by the Registrar-General to the registrars throughout England and Wales which will greatly facilitate the discrimination of the births and deaths in the several urban and rural sanitary districts within the registration districts.

A cow-keeper has been fined £5 with costs by the Reigate County Bench for having suffered a man who had, at the time, cases of diphtheria in his family to milk his cows.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

English urban mortality was somewhat higher last week, but was still considerably below its average for the season. In twenty of the largest English towns, estimated to contain in the middle of this year nearly a third of the entire population of England and Wales, 5275 births and 3355 deaths were registered last week. The births exceeded by 89 and the deaths by 98 the average weekly numbers during 1880. The deaths showed an increase of 160 upon the low number returned in the previous week, and were equal to an annual rate of 23·0 per 1000, whereas in the five preceding weeks the rate had steadily declined from 31·0 to 21·9. The lowest death-rates in the twenty towns last week were 17·2 in Brighton, 18·6 in Leicester, 19·5 in Bristol, and 21·1 in Birmingham. The rates in the other towns ranged upwards to 25·2 in Manchester, 25·3 in Salford, 25·8 in Wolverhampton, and 26·5 in Liverpool. During the past nine weeks of the current quarter the death-rate in the twenty towns averaged 24·8 per 1000, against 25·8, the average rate in the corresponding periods of the five years 1876–80.

The deaths referred to the principal zymotic diseases in the twenty towns, which had steadily declined from 390 to 290 in the six preceding weeks, were 296 last week; these included 82 from whooping-cough, 57 from scarlet fever, 53 from small-pox, and only 26 from fever, principally enteric. The annual death-rate from these principal zymotic diseases averaged only 2·0 per 1000 in the twenty towns, and ranged from 0·3 in Hull and 1·0 in Brighton and Newcastle-upon-Tyne, to 3·0 in Norwich and 4·3 in Portsmouth. Whooping-cough showed excessive fatality in Leeds. The 16 deaths referred to diphtheria in the twenty towns included 9 in London, 3 in Portsmouth, and 2 in Salford. The death-rate from fever was unusually low, but showed a proportional excess both in Norwich and Portsmouth. Small-pox caused 54 more deaths in London and its suburban districts, and one in Birmingham, but none in any of the eighteen other provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had steadily increased in the eighteen preceding weeks from 77 to 752, further rose to 779 on Saturday last, a higher number than has been under treatment in these hospitals since the spring of 1878. The number of new cases admitted to these hospitals, which had been 176, 183, and 187 in the three previous weeks, further rose to 195 last week. The Highgate Small-pox Hospital contained 56 patients on Saturday last, against 46, 53 and 43 at the end of the three preceding weeks, 24 new cases being admitted during the week.

The deaths referred to diseases of the respiratory organs in London, which had been 364 and 367 in the two preceding weeks, further rose to 419 last week, which were, however, 44 below the corrected average number in the corresponding week of the last ten years; 283 resulted from bronchitis, and 75 from pneumonia. The annual death-rate from lung diseases (excluding phthisis) was equal to 5·9 per 1000 in London; the rate from the same diseases was 9·1 in Liverpool.

The causes of 93, or 2·8 per cent., of the deaths in the twenty towns last week were not certified, either by a registered medical practitioner or by a coroner. The proportion of uncertified deaths was equal to 1·8 per cent. in London, while it averaged 3·6 per cent. in the nineteen provincial towns. No uncertified deaths were registered last week in Portsmouth, Bristol, or Newcastle-upon-Tyne, whereas their proportion was largest in Oldham, Bradford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

In eight of the largest Scotch towns, having an estimated population of rather more than a million and a quarter persons, the annual death-rate averaged 22·9 per 1000 last week, against rates declining steadily from 34·7 to 22·5 in the five preceding weeks; this rate was almost identical with the average rate (23·0) in the twenty large English towns. The rates in the eight Scotch towns ranged from 17·8 and 18·8 in Greenock and Aberdeen, to 25·3 and 29·7 in Perth and Dundee. The deaths referred to the principal zymotic diseases in the eight towns, which had steadily declined from 125 to 70 in the five previous weeks, were 83 last week, and included 28 from whooping-cough, 18 from diphtheria, 15 from scarlet fever, 11 from diarrhœa, 6 from "fever," and 5 from measles. The annual death-rate from these zymotic diseases were equal to 3·3 per 1000, and was 1·3 above the average rate from the same diseases in the twenty English towns; this rate in the eight Scotch towns ranged last week from 1·9 both in Greenock and Perth, to 4·5 and 5·2 in Edinburgh and Leith. The fatal cases of whooping-cough in the eight towns, which had steadily declined from 34 to 17 in the five previous weeks, rose again to 28 last week, and included 11 in Glasgow, 10 in Edinburgh, and 5 in Dundee; the main increase of whooping-cough fatality occurred in Edinburgh. The 18 deaths from diphtheria were also more numerous than those in recent weeks; 7 were returned in Glasgow, 4 in Edinburgh, 2 in Aberdeen, and 2 in Paisley. The fatal cases of scarlet fever also showed a considerable increase, and included 5 in Edinburgh, 4 in Glasgow, 3 in Leith, and 2 in Dundee. The 11 deaths from diarrhœa included 6 in Glasgow and 3 in Aberdeen. The deaths referred to fever, which had been 8, 10, and 14 in the three previous weeks, declined to 6 last week, and included 2 in Glasgow and 2 in Leith; the annual death-rate from fever, however, was again considerably higher than the average rate in the twenty English towns. The deaths referred to acute diseases of the lungs (bronchitis, pneumonia, and pleurisy), which had declined from 348 to 150 in the five preceding weeks, were 179 last week, and were equal to an annual rate of 7·1 per 1000; the death-rate from the same diseases in London did not exceed 5·1 per 1000. The largest excess in the fatality of lung diseases in the Scotch towns occurred last week in Glasgow and Dundee.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, although continuing to decrease, still shows a marked excess. The annual death-rate in the city, which had steadily declined from 47·4 to 38·1 in the five preceding weeks, further fell to 36·0 last week. During the past nine weeks of the current quarter the death-rate in the city has averaged no less than 40·1 per 1000, against 21·7 in London and 22·9 in Edinburgh. The 230 deaths in Dublin last week showed a further decline of 15 from recent weekly numbers, and included 21, or rather more than 9 per cent., which were referred to the principal zymotic diseases, against 31 and 24 in the two previous weeks. These 21 zymotic diseases included 5 from fever (including typhus, enteric or typhoid, and simple continued), 6 from scarlet fever, 5 from whooping-cough, 1 from measles, 1 from diarrhœa, and not one either from small-pox or diphtheria. The annual death-rate from these zymotic diseases was equal to 3·3 per 1000 in Dublin last week; it was only 2·3 in London and was 4·5 in Edinburgh. The deaths referred to fever, which had been 17 and 10 in the two preceding weeks, were 8 last week; these, however, were equal to an annual death-rate seven times as high as the average rate from the same causes last week in the twenty large English towns. The fatal cases of scarlet fever in Dublin, which had been 3 and 4 in the two previous weeks, further rose to 6 last week; those of whooping-cough also showed a slight increase. The deaths of elderly persons showed a further decline from the high numbers returned in recent weeks; whereas those of infants were more numerous than in either of the two previous weeks.

INFANT MORTALITY IN TOWNS.

The Portsmouth Literary and Scientific Society recently devoted an evening to a paper on Infant Mortality, which was read by Dr. Harris. The paper was well calculated to direct public attention to a subject which is generally regarded with far too much apathy. It is to be regretted, however, that the paper was not read in Leicester, Liverpool, or Leeds, in which infant mortality is habitually excessive, instead of in Portsmouth, the comparatively low rate of infant mortality in which town has long been an interesting problem to the students of mortality statistics. Dr. Harris reminded his hearers that in the healthy districts of England the rate of infant mortality did not exceed 103 per 1000, and that if the rate in England and Wales did not exceed this rate there would be an annual saving of about 44,000 infant lives. Such facts as these cannot be too often or too strongly insisted upon, although it would scarcely be reasonable to expect at present that the infantile death-rate in large towns should be comparable with that prevailing in the most healthy of our rural districts. We could have wished that Dr. Harris had illustrated his paper with more recent figures, and we certainly think that scant justice was done to Portsmouth for the favourable comparison which that town affords with most other large towns in the matter of infant mortality. In twenty of the largest English towns the rate of infant mortality during the ten years 1870–9, measured by the proportion of deaths under one year to births registered, averaged 171 per 1000. The lowest rate among these twenty towns was 141 in Portsmouth, the nearest approach to this rate being 158 both in London and Brighton; the rates ranged upwards in the other towns to 187 in Bradford, 188 in Norwich and Manchester, 192 in Leeds, 216 in Liverpool, and 216 in Leicester. It is impossible to doubt that in Portsmouth there is much preventable infant mortality which a well-organised ladies' sanitary organisation, such as was suggested by Dr. Harris, might do much to reduce the rate below the 141 per 1000 which prevailed during the ten years 1870–9. With still greater force, however, should this paper appeal to such towns as Liverpool and Leicester, in which, during the same ten years, the rate

of infant mortality exceeded by 75 per 1000 that which was recorded in Portsmouth. During 1880 infant mortality in the twenty towns, although considerably affected by exceptional diarrhœa fatality, averaged 169 per 1000, and was slightly below the average rate in the preceding ten years; it ranged from 146 and 148 in Bristol and Portsmouth, to 202 in Nottingham, 214 in Norwich, and 219 in Leicester. As a means of throwing light upon the real causes of excessive infant mortality, we would suggest to Dr. Harris a careful analysis of the causes of death among infants in Portsmouth and Bristol, compared with those in Norwich and Leicester. We hope that the interest which Dr. Harris's paper deservedly attracted in Portsmouth may be accepted as a sign of increasing public interest in the subject of infant mortality, without which any important reduction cannot be looked for.

HEALTH MATTERS GENERALLY AT HOME AND ABROAD.

NOTIFICATION OF INFECTIOUS DISEASES IN IRELAND.

The introduction to the House of a Bill to provide for the better notification of infectious diseases in Ireland, improbable as it is to become law, may be accepted as satisfactory evidence that this important subject is beginning to force itself upon public attention. This Bill provides that upon the application of any sanitary authority the Local Government Board of Ireland may issue an order declaring this Act to be in force within the district, or any part of the district, of any sanitary authority; the Local Government Board having power, at their discretion, by a subsequent order to revoke such order. The effect of an order declaring this Act to be in operation would be to oblige any medical practitioner, under penalty of five pounds, to report to the local sanitary authority every case of certain infectious disease he may be called upon to attend. The specified infectious diseases are small-pox, cholera, scarlet fever, typhus, typhoid, puerperal or relapsing fever, diphtheria, measles, or erysipelas, and the Local Government Board has power to add to the list, from time to time, the name of any other acute infectious disease on the application of a sanitary authority. In cases of infectious disease not attended by any medical practitioner the obligation to report to the sanitary authority is imposed upon the occupier of the house, or person having charge of the patient. Within a declared district, within the meaning of this Act, it is enacted that the sanitary authority shall supply gratuitously to every registered practitioner residing within the district forms for certificates, stamped for transmission through the post. The element of failure in this, as in most other proposals for securing the notification of infectious diseases, is the proposed rate of pay to reporting medical practitioners. It is provided that sanitary authorities shall pay a fee of *one shilling* (!) to every medical practitioner for each certificate duly given; but that not more than one fee shall become payable, under this Act, within an interval of thirty days to the same medical practitioner, given by him in respect of the same disease, occurring in the same building. There can be little doubt that the prompt notification of infectious diseases lies at the very root of successful sanitation; but desirable as this is, we shall be surprised if any general Act of this nature become law which throws this unpleasant responsibility upon the medical practitioner, and proposes to award him the paltry sum of one shilling for each such certificate furnished to the sanitary authority.

AN APOLOGY FOR "DRAUGHTS."

The *Builder* has a sort of good word to say for draughts. Of course, ventilation accompanied with draughts is too terrific a conception to enter into a properly-balanced mind (leaving the influence of draughts on the body out of the account). But as existing dwellings are and the average Britisher is constituted, the person who conceives that it is possible in the present and near future to establish typical ventilation in the majority of English houses must have that enviable state of intellect which accepts the history of Jack the Giant-killer as not the least carefully verified and important portion of the history of Great Britain. If the Britisher prefers draughts, we "must allow," as the *Builder* judiciously phrases it, the preference; and he should be advised to adopt Mrs. Lirriper's opinions as to smoke—that is to take it plain, and not as presented in all sorts of mysterious and wonderful modes by the ingenuity of patentees.

ARTIFICIAL VACCINE LYMPH.

Mr. J. Lawrence-Hamilton proposes to introduce an abundant supply of pure artificial lymph, produced outside the body of living man or living animal, by isolating and then breeding the vaccine organisms in suitable germ nutritive solutions which have been previously deprived of all septic and other noxious germs. The publication of the special precautions and physical conditions which Mr. J. Lawrence-Hamilton considers necessary to secure safety and success in breeding, and then in employing the artificial vaccine lymph, as well as the results of therewith inoculating men, cattle, and other animals, will be postponed till a subsequent date.

RUSSIAN MEDICO-SANITARY NEWS.

Under the will of the late Empress Marie Alexandrovna, 150,000 roubles have been handed over to the Russian Red-cross Society, the balance of a sum collected after the Crimean war for the education of the orphans of soldiers killed or who died of their wounds during the war.—The subject of diphtheria is still causing much anxiety in Russia. A congress of the zemstvos of Kharkov, Poltava, Catherinoslaw, Tcheringow, Koursk, and Voronege, has been held in the city of Kharkov, to consider a general plan for dealing with the epidemic. This is stated to be the first example of a conference of delegates of various local governments.

THE PLAGUE.

The most recent news received on the reported outbreak of plague in Mesopotamia leave little doubt that the report is correct, and that the scene of the outbreak is on the Lower Euphrates—the scene, in fact, of the outbreak of the disease in 1873-74. In view of this reappearance of the disease the map of this district, and the particulars relating to it, given in the Parliamentary Paper on Plague, published during the session of 1879, have great interest.

It is reported that the landlord of a house at Dorking sued his tenant at the County Court on Wednesday for the cost of disinfecting his house, an outbreak of scarlatina having taken place, which it was shown had been brought into the neighbourhood by the defendant. Judgment was given for the plaintiff.

The subject of Sanitary Protection Associations seems to be exciting considerable attention in Yorkshire. Among other advocates, Mr. Dolan of Halifax sets forth their advantages *à propos* of the recent serious outbreak of scarlet fever in that town.

Our contemporary, *The Globe*, has the following:—"As was to be expected, small-pox has broken out in Leicester. Mr. P. A. Taylor's constituents will now have an opportunity of estimating the worth of the anti-vaccination movement, with which their representative has identified himself."

Professor Fleeming Jenkin has been lecturing at Bradford, in Yorkshire, on the desirability of forming a Sanitary Protection Association there, and his suggestions will be acted upon.

Small-pox is stated to be raging in the Sandwich Islands. A *cordon* has been placed around several houses in Honolulu, and free communication between the islands has been suspended.

AT the annual meeting of the Bolton Infirmary and Dispensary, after the reading of the report, which was in every respect satisfactory, the chairman said he had received a letter from Mr. Turner of Camden-road, London, enclosing a cheque for £50 in acknowledgment of the care and attention bestowed upon his son whilst in the institution. The lad, it appears, had sustained a fracture of the base of the skull and other severe injuries from having fallen between the platform and railway carriages on the Lancashire and Yorkshire line, but had, under the skilful attendance of the medical officers of the infirmary, quite recovered.

THE concert given this year by the staff of the South-Western Railway at Guildford, in aid of the funds of the Royal Surrey County Hospital, realised over £20.

THE SERVICES.

THE TRANSVAAL WAR.

Further reinforcements in men and *matériel* for the medical service in South Africa have been ordered by the War Office authorities during the past week. Four surgery and four pharmacy waggons, with a number of ambulances, have been despatched from Woolwich Arsenal and stored on board the transport *Thames*, which also takes out a large quantity of medicines, medical and surgical stores, medical comforts, &c. The complete equipment for two movable field hospitals, which give accommodation for 400 beds, will also be sent out without delay. A detachment of thirty-seven rank and file of the Army Hospital Corps, under the command of Lieutenant of Orderlies, J. Mullins, sailed in the mail steamer *Roman* from Southampton on Thursday last for Durban, and a further detachment of sixty-three, under Lieutenant J. Thompson, is held in readiness for immediate embarkation. Deputy Surgeon-General J. Sinclair and Surgeon-Major St. John Stanley were also provided with passages in the *Roman*. Surgeon-Major F. B. Scott, M.D., sailed in the *Balmoral Castle* on the 5th inst. for Natal.

VOLUNTEER AMBULANCE DEPARTMENT.

A parade of the Volunteers who have completed a course of instruction in ambulance and stretcher drill took place at the Guildhall, by the kind permission of the Right Hon. the Lord Mayor, on Wednesday, the 2nd instant, when the certificates of proficiency in this very useful work were presented to over one hundred members of the Volunteer Ambulance Department by Mr. Sheriff Fowler, in the unavoidable absence of Sir Thomas Truscott. Prior to the Sheriff's arrival an inspection of the men was made by Surgeon-General Shelton, President of the Society, who was accompanied by a staff of Army Medical Officers. The classes of instruction were three in number, and were in charge of Surgeon Ellis, 10th Kent Rifles, Surgeon Hicks, 1st Bedford, and Surgeon Andrew Clarke, Middlesex Volunteers. The men were put through the usual evolutions of stretcher drill, including the application of bandages, splints, and tourniquets—proceedings which were witnessed by the Sheriff and a large number of spectators with much interest. After handing the certificates to the class, Mr. Fowler addressed the parade at some length, complimenting the men on their steadiness and proficiency, and expressing his pleasure at the interesting manœuvres he had witnessed. Surgeon-General Shelton announced that the Secretary of State for War had authorised a badge similar to that worn by the Army Hospital Corps, but with silver instead of worsted lace, to be worn on the right arm by two men in each company of volunteers, who are to be enrolled as the recognised stretcher-bearers of the regiment. Dr. Shelton computed that in time they will number no less than 4000, a corps or department therefore of much importance. The Surgeon-General also announced that sanction had been received for the formation of a Volunteer-Bearer Company, to take part in the anticipated review at Windsor before H.M. the Queen.

Brigade-Surgeon C. G. Irwin, M.D., and Surgeon J. Wilson, Army Medical Department, are ordered to Cape Coast Castle for service on the West Coast of Africa.

Brigade-Surgeon Adam G. Young has arrived in England on six months' leave of absence.

Surgeon-Major Atkins has been appointed to the medical charge of the Convalescent Depôt at Dalhousie, and Surgeon-Major Ambrose to the Convalescent Depôt at Kasauli.

Surgeon-Major Alfred Sanderson, M.D., Madras Medical Service, has, we hear, been offered by telegram a Deputy Surgeon General's appointment in that Presidency — vice Oswald, proceeding home on furlough.

ADMIRALTY. — The following appointments have been made: Surgeon John K. Conway, to the *Liffey;* Surgeon Henry D. Collins, to the *Duke of Wellington*, additional, for temporary service at Haslar Hospital.

DR. THOMAS (says the "Colonies and India") has been dismissed summarily from the Melbourne Hospital for declining to give a death certificate.

THE HAMPSTEAD SMALL-POX HOSPITAL CASE.

THE MANAGERS OF THE METROPOLITAN ASYLUM DISTRICT *v.* HILL AND OTHERS.

THE appeal to the House of Lords from a decision of the Court of Appeal, reversing a judgment of the Queen's Bench Division, which made a rule absolute for a new trial in this case, and dissolved an injunction restraining the defendants, the present appellants, from using the Hampstead Small-pox Hospital as a hospital for patients suffering from small-pox or other infectious diseases, was decided on March 7th. The noble and learned lords present were the Lord Chancellor, Lord Blackburn, and Lord Watson. The action was brought by the plaintiffs, the present respondents, to recover damages for a nuisance arising from the use by the defendants of their hospital at Hampstead for small-pox and other infectious and contagious diseases, and for causing the assemblage in the neighbourhood of the plaintiffs' property of large numbers of persons suffering from such diseases and from offensive smells and noises arising from the use of the hospital, and also asking for an injunction to restrain the defendants from so using the hospital. The case came on for trial before Mr. Baron Pollock, when the jury found that the hospital was so carried on as to be a nuisance to the neighbourhood. The Queen's Bench Division made absolute a rule for a new trial and dissolved the injunction, which decision was set aside by the Court of Appeal. The case was argued on appeal before their Lordships some time ago, when judgment was reversed. Their Lordships delivered judgment in favour of the respondents.

THE LORD CHANCELLOR.—It must be assumed, for the present purpose, that the small-pox hospital which the appellants have established at Hampstead is, in its actual position, and independently of the particular way in which it is conducted, necessarily a nuisance to the neighbours; and the injunction which has been granted by the order appealed against is against "using the plot of land mentioned in the statement of claim and buildings thereon as a hospital for small-pox or any other infectious or contagious disorder in such manner as to create a nuisance to the plaintiffs or either of them." The appellants are, therefore, obliged, in order to succeed in this appeal, to prove that they have statutory authority to create a nuisance for the purpose of and as incidental to the maintenance of a small-pox hospital in this place. The appellants say that such authority has been given to them by the 5th, 7th, and 15th sections of the Metropolitan Poor Act, 1867, and by orders of the Poor Law Board made pursuant thereto. As far as the orders of the Poor Law Board are concerned, they did, undoubtedly, direct the appellants to purchase the land in question at a specified price, and to build upon it an asylum for the reception of poor persons infected with or suffering from fever or small-pox; and I assume that the building as erected and fitted up on that land is in strict accordance with plans which the Poor Law Board has prescribed or approved. The statute, when examined, is found to confer, in general terms, powers extending over a rather wide range of subjects. So far as relates to a hospital or asylum of this particular kind, there is nothing in it mandatory or imperative. Everything which it necessarily requires may be done, though no such hospital should ever or anywhere be established. The 5th section says that "asylums, to be supported and managed according to this Act, may be provided under this Act for reception or relief of the sick, insane, or infirm, or other class or classes of the poor chargeable in unions or parishes in the metropolis." The 6th section authorises the formation of districts; and the 7th requires that in each district so formed "there shall be an asylum or asylums, as the Poor Law Board from time to time by order direct"; leaving the class of poor persons, for whom any such asylum may be provided, entirely open. The 15th section enables the Poor Law Board from time to time, by order, to direct the managers "to purchase or hire, or to build and (in either case) to fit up a building or buildings for the asylum of such nature and size, and according to such plan, and in such manner as the Poor Law Board think fit"; and the managers are required to carry such directions into execution. Subsequent clauses put the arrangements and conduct of any such

asylum under the superintendence of the Poor Law Board. No compulsory power is given to acquire land or any interest in land for any asylum purposes. The Lands Clauses Acts are, indeed, incorporated by Section 52; but Section 53 expressly provides that so much of those Acts as relates to the purchase of land otherwise than by agreement shall not be put in force except for certain purposes, not including these asylums. It appears incidentally from Section 69 (which provides for the repayment of certain expenses therein specified out of the common poor fund) that asylums might be "specially provided under this Act for patients suffering from fever or small-pox"; but, except in that way, and from the fact that the general category of "sick" necessarily includes patients suffering from any kind of disease, there is no provision in the Act as to contagious or infectious disorders. If express words or necessary implication and intendment must be shown in order to authorise the Poor Law Board, or any managers of an asylum, to create a nuisance in the exercise of the discretionary powers given to them, I can find none in this statute.

The result is (1) that this Act does not necessarily require anything to be done under it which might not be done without causing a nuisance.

(2) That, as to those things which may or may not be done under it, there is no evidence on the face of the Act that the Legislature supposed it to be impossible for any of them to be done (if they were done at all) somewhere and under some circumstances without creating a nuisance; and

(3) That the Legislature has manifested no intention that any of these optional powers should be exercised at the expense of or so as to interfere with any man's private rights.

The only sense in which the Legislature can be properly said to have authorised these things to be done is that it has enabled the Poor Law Board to order and the managers to do them if, and when, and where, they can obtain, by free bargain and contract, the means of doing so.

If the Legislature had authorised some compulsory interference with private rights of property, within local limits which it might have thought fit to define, for the purpose of establishing this asylum to be used for the reception of patients suffering from small-pox or other infectious disorders, and had provided for compensation to those who might be thereby injuriously affected (in such case and under such conditions as it might have prescribed), the present case might have been like "Rex *v.* Pease" and "Brand *v.* Hammersmith Railway Company." No person outside the statutory line of compensation, even if the use of the asylum in the manner authorised by the statute had been productive of serious damage to him, could then have obtained any relief or remedy upon the footing that what the statute authorised was a legal nuisance to himself or an actionable wrong. But the case is different when (as here) no interference at all with any private rights is authorised, and no place, or limit of space, is defined, within which the establishment of such an asylum is made lawful. Neither the Poor Law Board nor the managers could for this purpose have taken a single foot of ground or have interfered with any the most insignificant easement against the will of the plaintiffs, or of any other person to whom such land or easement might belong. No line is here drawn by the Legislature between interests which are and interests which are not proper subjects for compensation. Under these circumstances, I am clearly of opinion that the Poor Law Board and the managers had no statutory authority to do anything which might be a nuisance to the plaintiffs without their consent. I therefore move your Lordships to affirm the judgment of the Court below, and dismiss this appeal.

Lord BLACKBURN delivered a lengthened judgment to the same effect.

Lord WATSON also concurred.

The judgment of the Queen's Bench Division was reversed accordingly, and the appeal was dismissed with costs.

SICK CHILDREN'S HOSPITAL, BRIGHTON.—At the twelfth annual meeting of the supporters of this hospital the committee reported that at the recent bazaar held on behalf of the funds of the institution the sum of £2230 was raised towards the completion of the new building, which will be opened by a member of the Royal Family in April next, and the total cost of which is estimated at £11,000.

THE FULHAM SMALL-POX HOSPITAL.

MR. FIRTH, M.P., presided over a meeting held on Monday evening, at the Vestry-hall, King's-road, Chelsea, to protest against the extension of the Small-pox and Fever Hospital at Fulham, and to take such steps as might be deemed advisable. The chairman remarked that the question upon which they had met to take counsel had been considered by several meetings in the borough, and was one of very great importance. Hospitals of a special character had been established at Hampstead, Homerton, and Stockwell, and subsequently land for a similar purpose had been purchased at West Brompton, though at the time the land was purchased nobody knew what was the purpose for which it was acquired. The people of Chelsea objected to have a disease like small-pox distributed throughout their district. In the Hampstead case it had been contended that it was no disadvantage to have such an establishment. But a great many people accepted the "germ" theory. The district of Fulham had been considered the most salubrious in the metropolis, but here they found that houses in a direct line with the hospital, between which no tree or house intervened, were places where the disease was apt to break out. If the wind blew in a particular direction the germs might be conveyed to persons looking out of a window. The appeal to the House of Lords in the case of the Hampstead Hospital had been decided that day, and that might render their position somewhat different. He referred to a letter from Dr. Francis Godrich, medical officer for Brompton, in which he stated that during the last three years, ending December 31st, 1880, 213 parochial cases were sent into the hospital, of which number 124 came from within about a quarter of a mile's distance of it, which includes an area not at all densely populated, quite two-thirds being open ground, 55 from an area situated between a quarter and a half mile of the hospital, and the remaining 34 were scattered over the rest of the district, extending about two miles from the hospital. A resolution was passed unanimously that the use of the Small-pox and Fever Hospital at Fulham should be confined to the four parishes constituted by the borough of Chelsea. A further resolution was submitted, declaring that, inasmuch as the Metropolitan Asylums Board had declined to limit the Small-pox and Fever Hospital at Fulham to the inhabitants of the borough of Chelsea, and as the Local Government Board had declined to receive a deputation from the inhabitants of that borough on the subject the meeting would support the committee in the prosecution of such legal proceedings as might be necessary to vindicate the rights of the district, and that a subscription and guarantee fund be formed.

On Tuesday evening a largely-attended meeting of the committee formed to take action with respect to the spread of small-pox through the cases brought to the Fulham Small-pox Hospital was held at Messrs. Tattersall's, Knightsbridge—Mr. Firth, M.P., in the chair. Amongst others present was Mr. Pearson Hill, son of the late Sir Rowland Hill, who was the plaintiff in the protracted litigation with the Metropolitan Asylums Board with respect to the Hampstead Hospital. Mr. Hill attended at the request of the committee to explain what had been done in the Hampstead case. In the discussion which took place it was understood that immediate steps would be taken to apply for an injunction to prevent any further small-pox patients being received into the Fulham Hospital; and that there should be no attempt at interference with the patients at present under treatment. Several members of the committee put down their names for £25 towards a guarantee fund, and other gentlemen present also subscribed to it. The following resolutions were passed:—1. "That this committee do now resolve to take immediate action as they may be advised to prevent further small-pox patients being sent to Fulham Hospital, due regard being had to the safety of patients now under treatment there." 2. "That an executive committee be formed to arrange as to matters of finance, and in that respect carry out the above resolution." 3. "That a sub-committee be appointed for each district to make a house-to-house canvas for subscriptions towards the preliminary expenses and the guarantee fund." The other business consisted of the appointment of various committees, which were to meet every day during the next fortnight.

MEDICAL NOTES IN PARLIAMENT.

Alkali Works.

THE House of Lords on Tuesday having gone into Committee on the Alkali Works Regulation Bill, several of the clauses were agreed to after unopposed amendments had been inserted on the motion of Lord Huntly, who had charge of the measure. On Clause 7, Lord Midleton moved an amendment having for its object to bring coke ovens within the operation of the Bill. The amendment was opposed by Lord Huntly, and rejected by a majority of 18. Ultimately the Bill was reported to the House with only the amendments introduced, or agreed to without discussion, by Lord Huntly, on behalf of the Government.

In the House of Commons on Thursday, March 3rd, further petitions for inquiry into the East India Army Medical Department were presented from Messrs. T. Ringer and G. Bainbridge.

On Friday a petition was presented from the parish of St. Martin-in-the-Fields praying for an alteration of the law with regard to infectious diseases. Mr. Healy moved the second reading of the Coroners (Ireland) Bill, which was at first opposed by the Attorney-General for Ireland, but subsequently by arrangement the second reading was agreed to, and the Bill was referred to a Select Committee.

The Drug Trade.

Mr. Gabbett asked the Secretary of State for War whether medicines are provided for the army in England by inviting tenders from the drug trade, and if not thus, in what manner; whether the practice that exists in England is applied in Ireland, and whether the Irish drug trade receive invitations to tender for supplies. Mr. Childers replied that in England quarterly requisitions were received from about a hundred stations, and drugs were supplied direct, either by the Apothecaries' Company or by Savory and Moore, according to the prices at which they tendered. In Ireland the drugs were supplied by the Apothecaries' Company in Dublin, and the prices were always checked by returns from the department.

Fulham Small-pox Hospital.

Mr. Firth asked the President of the Local Government Board whether the decision in the case of Hill *v.* The Metropolitan Asylums Board would modify the action of the Local Government Board in reference to Fulham Hospital. Mr. Dodson said, in view of the small-pox epidemic, this was a serious question, not to be hastily answered. He knew nothing of the nature of the judgment except by general report, and desired to have an opportunity of considering it before he came to a conclusion as to what steps ought to be taken.

Wanted, a Specific for Small-pox.

The following notice was given for this Thursday:—Mr. Daniel Grant, to ask the President of the Local Government Board whether, considering how constantly epidemics of small-pox recur, the large number of deaths which are annually returned, the wide differences of opinion that exist among fully qualified medical men as to the limits of the protective power of vaccination, and with respect to the genesis, distribution, and limitations of contagion, he will take into his consideration the advisability of offering a series of substantial premiums, open to all the world, for obtaining concise, accurate, and fully tested information as to the origin, growth, and development of the disease; also such other practical knowledge as will tend to minimise its power of infection and indicate the means for its extinction; and whether it may with propriety be assumed that, if any person can discover an absolute specific for the disease itself, a full pecuniary recognition would be awarded.

On Thursday, in reply to Mr. Grant's question, Mr. Dodson declined to enter into the various points raised in the preamble, but asked the hon. member to accept "as a practical and conclusive answer" an assurance that he (Mr. Dodson) had no funds whatever applicable to such a purpose.

On Monday petitions for inquiry into the East India Army Medical Department were presented from Messrs. J. Murray, F. H. Blinkinsop, E. Selens, J. B. Eaton, A. E. Stephens, W. Watson, G. Henderson, A. J. Dale, J. Cruickshank, A. Adey, and R. Murray.

Animal Vaccine.

The following notice was given for Thursday:—Dr. Cameron, to ask the President of the Local Government Board whether any steps have been taken to give effect to his promise, made on the 11th of June last, that the Vaccination Department should supply calf lymph as "stock" for vaccination to such medical practitioners as preferred it to ordinary humanised lymph; and whether, in view of the alarming spread of small-pox in London, the department would consider the propriety of taking measures to secure a sufficient supply of vaccine lymph for the purpose of re-vaccination.

Trichinosis.

On Tuesday, in reply to Dr. Farquharson, Mr. Dodson said, no case of trichinosis had been reported in this country, and he stated that there was no cause for alarm. But looking at reports from other countries of the existence of trichinosis, and at the report of Dr. Ballard, with regard to the recent outbreak of diarrhœal disease at Welbeck, he had thought it advisable to issue a circular to local authorities, pointing out certain precautions, and recommending vigilance on the part of medical officers of health in regard to the proper inspection of pork and hams. Mr. Talbot gave notice of a question for Thursday, with regard to the provision of fever and small-pox hospitals for the metropolis.

On Wednesday petitions for an alteration in the Scotch law and medical relief were presented from Stirling, Thurso, and Rendall.

The Contagious Diseases Acts in Bombay.

Mr. Hopwood gave notice of his intention on Tuesday next to ask the Secretary of State for India whether he is aware that the Contagious Diseases Act was reapplied to Bombay early in 1880, in spite of strong objection expressed by a large number of influential natives and Europeans, including the Bishop of Bombay; whether the native justices and Municipal Council of Bombay have not declined throughout to vote money towards the expenses of the working of the Act; whether the Government of Bombay have deducted the sum of 15,000 rupees from the grant of 90,000 rupees usually paid by the Government towards the expenses of the Bombay city police, although the grant was long previously agreed upon, after full discussion between the Municipality and the Supreme and Local Governments; and whether the Home Government approve of the forcing of the Acts in question upon a population so sensitive and peculiar as that of India in regard to the treatment of women.

Vaccination in Prisons.

Mr. Yorke asked the Secretary of State for the Home Department whether the medical officers of Her Majesty's prisons are required by the regulations to vaccinate all children born in the prisons before they are allowed to go out; and, if so, whether such regulations are strictly enforced, especially in the case of the female prison at Westminster. Sir W. Harcourt said he had not had time to inquire into the facts, but would do so.

Correspondence.

"Audi alteram partem."

FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

To the Editor of THE LANCET.

SIR,—Referring to Sir Trevor Lawrence's question in the House last night, and to the letters which have recently appeared in your columns, one would really suppose that the Scotch medical corporations were the *only* bodies who exacted payment for the Fellowship, and who granted it without examination.

I do not seek to defend the Edinburgh College of Surgeons, which has, I know, admitted many men to its Fellowship whose right to that honour was, at least, doubtful; but why such a virtuous outcry about "payment" and the absence of any examination? Does not the English College of Surgeons admit a large number of Fellows by election and without examination, and are not all the Fellows of the English and Irish Colleges of Physicians admitted by election and

without examination? And do not all these bodies exact fees in return for the honour conferred?

There can be no objection to the Fellowship of any learned body being conferred on worthy subjects by the votes of the existing Fellows, but I fully admit that the candidates should first have proved themselves to be deserving of the honour. I remain, Sir, yours obediently,

March 1st, 1881. F.R.C.S. EDIN.

*** Though the mode of election of Fellows of the R.C.P. London may not be perfectly satisfactory, our correspondent must be aware that the process and the results are very different from those of the Scotch Corporations. A Fellowship cannot be *bought* at the London College as in Edinburgh, but it is conferred as a mark of distinction by the suffrages of the Fellows of the College. The system of election in the King and Queen's College of Ireland is, we fear, too like that of the Scotch Corporations. But neither in the English nor the Irish College of Surgeons is the Fellowship to be had now without examination, except as regards the latter in certain rare and well-defined cases. The only instances in which the Fellowship of the Royal College of Surgeons of England can be obtained without examination are (1) in the case of persons who were Members before Sept. 14th, 1843, on the recommendation of six Fellows; (2) the Council of the College has the power to elect annually two Members of twenty years' standing, but there are only three Fellows who have been elected in this way; (3) by an *ad eundem* admission of Fellows of the Irish College of Surgeons, of which there are *two*. It is satisfactory to know that all these questions are to be investigated by a Royal Commission.—ED. L.

THE POTTED MEAT TRADE.

To the Editor of THE LANCET.

SIR,—If there is one trade that requires supervision it is the potted meat trade. For several years past I have from time to time had very clear cases of poisoning from the use of potted meats as sold in the country. In one instance a lady had some potted salmon for luncheon; in less than an hour she was taken violently ill with sickness, pain in the region of the stomach, and a feeling of faintness. One of her daughters was similarly, though in a less degree, affected; neither of the ladies had the smallest doubt that the potted salmon was the cause of the illness. Another time several boys were affected with sickness and great gastric disturbance; that was also attributed to potted fish, lobster, if I remember rightly. Again, a pot of so-called potted shrimps that had disagreed with two boys was sent to me. I found that it mainly consisted of a pultaceous substance, coloured with venetian red. Under a low-power microscope fragments of small crab shells were found to be abundant. The mass seemed to be composed of pounded crabs, possibly some herring roe, grease of some kind, and venetian red. In another instance a tin of potted food was brought to me. It looked fresh, and from the cover it seemed to be just out of the manufactory. There was a small tear in the cover, and on enlarging the hole another cover was seen underneath entirely defaced by ironmould, so that it is possible for the potted contents of the tin to have been years old and to have been fraudulently made to look new by placing a clean and new label upon it. It will be in the recollection of many how a large quantity of the tinned meat that was supplied by a respectable firm for use in the Crimea was discovered at Devonport, fortunately before shipment, to be in a putrid and utterly unusable condition. I have been led to make these statements and remarks from having had the following extract from the *Huddersfield Examiner* given to me:—

"*A Potted Meat Manufactory: Disgusting Discovery.*

"On Saturday a disgusting discovery was made on the premises of a potted meat manufacturer. Entering the premises Superintendent Buckley and Inspector Latham found in the manufactory a steam machine in operation, and about 1300 lb. of diseased horseflesh, mutton, &c., in various stages, from the 'raw material' to the 'finished' potted meat, sausages, saveloys, savoury ducks, German polonies, &c. There were nearly 200 lb. weight of sausages recently made, and coloured with red ochre to give them a fresh appearance. Two diseased sheep, dressed but uncut, were in the manufactory, besides quarters, breasts, legs, and shoulders of diseased mutton, besides 200 lb. weight of diseased horseflesh, cut into small pieces, cans of recently made potted meat, the meat being mostly horseflesh, horribly diseased and coloured with red ochre, large German polonies of equally unwholesome, if not poisonous, material, and a large number of tins ready to receive as potted meat the strange compounds. The borough and county medical officers immediately condemned the meat, remarking that they had never seen such a disgusting collection. A tin of red ochre was also found in the loathsome manufactory. Magisterial proceedings will necessarily follow."

I understand that the magistrates inflicted three months' imprisonment, remarking that it was the utmost penalty that they could enforce. It is impossible to use too strong terms against such nefarious proceedings, and while the alarm of trichinæ is occupying the public mind the abomination to which the potted meat trade can descend ought not to be lost sight of.—Yours very truly,

WALTER FERGUS, M.D.

Marlborough College, March 7th, 1881.

CYSTICERCUS IN THE BRAIN.

To the Editor of THE LANCET.

SIR,—The occurrence of pork measles in the human brain is so rare that perhaps you will allow me to mention that Dr. Flint of Scarborough has just sent me a specimen of Cysticercus cellulosæ which, apart from its unusual habitat and the clinical interest attaching to it, exhibits some strange peculiarities. In the uninjured state the bladder-worm was fully as large as a cherry, having the width of a shilling piece. When unrolled and gently extended on a slide it reached a length of two inches. On dissecting out the head I was not a little surprised to find that it was furnished with six suckers. This reminds one of Zenker's example of a monstrous Tænia solium recently figured and described by Heller ("Die Schmarotzer," s. 41). It is to be hoped that Dr. Flint will publish his case. The specimen will be shown at the next meeting of the Quekett Club.

I am, Sir, yours truly,

London, March 7th, 1881. T. SPENCER COBBOLD.

EMPYEMA AND ITS TREATMENT BY FREE INCISION, IRRIGATION, AND ASPIRATION.

To the Editor of THE LANCET.

SIR,—Mr. Lowe is a little severe upon me in his criticism of my case.

Firstly, he thinks I claim priority in performing the above operation by free incision, irrigation, and aspiration, with Listerian precautions. I assure him I do not. All that I say in my little paper is, that this case (the one reported) may be the first done according to the directions of Professor Fraentzel, as given in Ziemssen's Cyclopædia; and I may add, by the way, that Fraentzel in this article says he himself derived the plan of proceeding from Traube. This, my "claim," however, is sufficiently disposed of by a report in the last number of THE LANCET, by Dr. Ferguson of Cheltenham, of two cases, one of which, at any rate, was treated in 1879, and I am pleased to acknowledge his priority, as also to find he appreciates the operation as he does. As I only followed implicitly Fraentzel's directions, I will leave him to fight out with Mr. Lowe, if he thinks proper, the science and common sense of the arrangements, just adding that if Mr. Lowe would read his beautiful article on Pleurisy, he would not, I am sure, think him deficient in either the one or the other.

The distilled water was only used for the first forty-eight hours, and was heated to from 100° to 103° F. I am in hopes it washed away all disease germs then existing, and that the subsequent antiseptic washings destroyed any, if introduced by it. As to the other Listerian precautions, all were carried out—instruments, tubes, hands, funnel, syringe, and even clothes, were freely carbolised. The spray was used during all manipulations, and carbolised gauze applied after.

I believe that the temperature of the water rendered harmless, though it might not have destroyed, these mischievous little entities. At any rate, there was no evidence in our case that any harm resulted from their (according to Mr. Lowe) unopposed sojourn in the pleural cavity.

The free incision and emptying of the cavity require a word. If Mr. Lowe had seen the immense masses of pus-sodden fibrine belched out, as it were, from the aperture, some of them requiring even forceps for their complete ejection, I think perhaps he would not have regretted the freeness of the opening, but would rather have wished he had made it a little more free. But let him observe what I now tell him: that two carbolised fingers were introduced now and then into the wound, to stay the flow of the fluid when judged to be too rapid, according to Fraentzel's minute directions. All authorities, I think, agree that when the fluid contained in the pleural cavity is proved to be pus (as it was in our case by a preliminary exploring aspiration) the outlet should be free; but I do not think this has been so precisely laid down by anyone as it has been by Fraentzel.

Now, as to the patient's case before operation. I may state the boy had been ill, a month before I saw him, with dyspnœa, pain, emaciation, and sweatings. The left side was enlarged, smooth, and motionless; the upper and lateral parts were perfectly œdematous; there was complete dulness, and complete absence of respiratory murmur, except at the apex anteriorly, and here and for some short distance below posteriorly. The vocal fremitus was absent, though easily felt on the other side, and measurement round just below the nipple line showed half an inch more on this side than on the other, which, as it was the left side in a right-handed person, made a difference of one inch in the relative size. The case was, in fact, one of empyema proper, not one of circumscribed suppuration.

One advantage of the method I will just mention. The whole proceeding enables one to judge, by smell, sight, and touch, much of what is taking place in the pleural cavity. For instance, in our case masses of soaked fibrine came away at the time of the incision, and for a day or two after. For a week or two our two tubes would only pass in one direction, and then came a gush of greenish pus, all that had been previously washed away having been nearly white. At the same time there was a rise of temperature, and a small spot of dulness, with tubular breathing behind. This enabled me to say to a medical friend, "You may depend upon it there is a piece of the old lymph, which has not come away, which has kept open a sinus between the two pleural surfaces, and has caused a local abscess." In the second or third washing after, this piece of lymph blocked the exit tube and was removed. It had evidently lodged between the two lobes of the lung.

I find I have omitted alluding to one point mentioned by Mr. Lowe—viz., the weakness of the carbolic acid solution. Our great ovarian operators have, it seems, come to use their solutions much more diluted than Lister's; for reasons which certainly apply to the pleural cavity—the avoidance of local irritation and general absorption. I doubt not similar reasoning influenced Fraentzel and Traube, and would certainly influence me, in treating any similar case, to use the same strength as I did with confidence in its antiseptic influence.

I am, Sir, yours, &c.,

WM. W. MOXHAY,

Reading, March 7th, 1881. Surgeon Royal Berks Hospital.

"CASE OF PROBABLE POISONING BY COLCHICUM."

To the Editor of THE LANCET.

SIR,—My attention has been directed to the above case in last week's LANCET, sent to you by my neighbour, Dr. C. Budd of North Tawton. As I am the medical man alluded to who attended the case during the first seven days, I shall feel obliged if you will allow me to correct a mistake and an omission of Dr. Budd's respecting the patient's illness during the time he was under my care.

I saw the patient for the first time on Tuesday, Sept. 7th, and was told by him he had been shooting in Scotland, where he had taken a great amount of walking exercise, and had suffered occasionally from gouty pains in the knee. He informed me—which Dr. Budd's account does not mention—that on the morning he was leaving Scotland for Devonshire he was standing on the railway line talking to a friend, when an empty truck, which was being shunted and unperceived by him, struck him with such violence as to make him think he was being run over, and, as he expressed it, he was terribly frightened as well as shaken. On his arrival at Exeter, late on Saturday night, he drank iced water with a quantity of lemon-juice. Two days after he came home I saw him for the first time, and found him suffering from diarrhœa, vomiting, and hiccough, as described by Dr. Budd. Being fully aware of the patient's gouty diathesis and the irregular mode of living a visit to Scotland for grouse shooting entails, the great nervous shock he experienced on being violently knocked down by the empty truck, besides a long fatiguing journey, and at the end of which drinking a quantity of iced water with lemon-juice, did, in my opinion, account for the symptoms he then suffered from. My treatment may be described as essentially soothing and corrective, and it was so far successful that on the Monday following (the sixth day of my attendance) the diarrhœa, vomiting, and hiccough had completely subsided. (Dr. Budd says he obtained no relief.) He was free from pain, with a clean, moist tongue; pulse natural and secretions healthy, but suffering greatly from weakness, although not more than might be expected. At his own request I allowed some champagne and a few oysters to be taken on the following day.

I considered him so much improved that I suggested passing over one day without seeing him, to which he readily assented. My attendance, however, now ceased, as on the following day he sent for another medical man without informing me of his desire to have a second opinion. In my annoyance I refused to visit him again.

What caused a return of all the previous symptoms and the fatal termination I would not venture to say, but I cannot for a moment agree with Dr. Budd that it was a case of poisoning by colchicum; had it been so the case could not possibly have improved to so great an extent as it had when I left him, and then returned with double violence about forty-eight hours after I last saw him.

The final issue, as described by Dr. Budd, points, I think, to a rapid cerebro-spinal effusion, caused possibly by a gouty poison, instead of colchicum.

I am, Sir, your obedient servant,

JOHN GOULD, M.R.C.S. & L.A.C.

Hatherleigh, March 7th, 1881.

"THE DESIDERATUM."

To the Editor of THE LANCET.

SIR,—The instrument of which the enclosed is an illustration (and which I have named "The Desideratum" for the purpose of registration) was invented by me to obviate as far as possible the awkwardness and inconvenience attendant on the eating of their meals by persons deprived of the use of either arm.

You will perceive that it is on the principle of the shears, being formed of a fork and cutting-blade, which enables the person using it to divide at will and raise his or her food.

It can be had to suit either the right or left hand, and with or without an indentation (which acts as a tooth) on the fork edge.

Messrs. Arnold and Sons, of West Smithfield, have most intelligently carried out my design.

Your kindly allowing this instrument to become known to the profession and the public through the medium of THE LANCET will much oblige—Yours faithfully,

JOHN C. HOGAN, M.B.

Sister's-avenue, Lavender-hill, S.W., 21st Jan. 1881.

THE TESTIMONIAL SYSTEM.

To the Editor of THE LANCET.

SIR,—When will the University of Edinburgh reform the method by which the majority of its professorial elections are brought about? I ask this question because it is doubtless owing to some defect in the manner in which vacancies are filled up that candidates for its chairs feel it necessary to procure and subsequently publish a whole book of so-called "testimonials." No sooner is a vacancy announced or thought of than intending candidates begin to write to all sorts of people within the United Kingdom and outside, with the view of extracting, often very unwillingly given, the miscellaneous items of which this said book of testimonials is to be composed. Surely the process is troublesome, unnecessary, and not a little humiliating to those who have to take part in it. In most other places half a dozen testimonials from those who really know the candidates are usually deemed sufficient. Why is this not so in Edinburgh? Your obedient servant,

March 7th, 1881. M.D.

GLASGOW.

(*From our own Correspondent.*)

I AM glad to notice that the managers of the Glasgow Royal Infirmary have commenced the practice of making honorary appointments to the hospital staff. The first to be so honoured is, very appropriately, Dr. Andrew Buchanan, ex-President of the Faculty of Physicians and Surgeons, who has just been elected Honorary Consulting Surgeon to the infirmary. This compliment is well deserved, and reflects credit equally on Dr. Buchanan and on the infirmary authorities.

Death has recently been busy in medical circles both in the east and west of Scotland. Edinburgh has lost Sanders, Wood, and Handyside within a comparatively short time; while Glasgow was startled by the very sudden death of Dr. J. G. Wilson on Friday last. Dr. Wilson enjoyed the confidence of his professional brethren in a high degree, and had a large practice as a consultant in obstetrics. For the chair of Midwifery in Anderson's College, rendered vacant by his death, there will doubtless be the usual scramble. It is hinted, however, that the trustees of Anderson's College may possibly leave the vacant office unfilled, in view of the talked-of amalgamation with the Infirmary School of Medicine; but as this scheme, in the present temper of the various lecturers and professors more immediately concerned, is somewhat utopian, it may be left out of consideration, and the election to the chair will therefore probably go on. This matter will be finally decided at an early meeting of College trustees.

The movement for the erection of a Southern hospital in Glasgow is making unexpectedly rapid progress. The recently appointed Executive Committee, in approaching the Town Council with the request for a free grant of land or for an offer of ground at a greatly reduced price, met with a very gratifying reception. The Council, indeed, showed a disposition to deal with the question in an extremely liberal spirit. There appears to be some objection to the site originally proposed, Coplaw-hill; but I understand that the Council have under consideration a proposal to make a grant of twenty acres or thereby of that part of Queen's-park facing Langside, for hospital purposes. Generosity such as this would give a great impetus to the scheme. The site referred to is a perfect one in most respects; it has only this drawback, that it is too far from the city proper, from the factories, and the class of people it is intended to benefit. There has been some talk also of providing Fever Hospital accommodation for the south side of the city, near or in connexion with the proposed Southern hospital; but it is to be hoped that these hospitals will be kept distinct from each other and widely separate.

Some curious facts regarding the financial position of our two existing infirmaries are set forth in a letter prepared for publication by the Executive Committee of the Southern Hospital scheme. This letter, which is designed to combat the notion that these institutions are in straitened circumstances and that Glasgow has, therefore, difficulty enough in supporting the two infirmaries she has, has been carefully gone over, and its statements and figures have been verified by the Committee; it is printed, is now in the hands of most of the influential men connected with the south side of the city, and will soon be published. It shows that during the last ten years, in a time of general commercial depression, the Royal Infirmary has not only been able to pay its way and to spend large sums on extensions and improvements, but has also saved over £50,000, and that its total accumulated stock now amounts to over £100,000. The Western Infirmary, also, during the six years it has been in existence has not only met every claim made on it, but has also saved over £16,000. This will be news to many who do not wade carefully through annual reports, and seems to prove clearly that Glasgow is perfectly able to support a third infirmary. It is much to be regretted, however, that the Committee should have thought it necessary to their case to drag the Infirmary School of Medicine into the discussion, as this is a matter which is apt to be misunderstood by the public.

Obituary.

SURGEON-MAJOR HENRY CORNISH.

SURGEON-MAJOR CORNISH, whose death from wounds received in action at Majuba Hill we recorded last week, was born at Taunton, Somerset, in 1844. He received his professional education at Edinburgh, where in 1865 he obtained the licences of the Royal College of Physicians and the Royal College of Surgeons. After passing through the course of instruction at the Army Medical School, Netley, he was appointed an assistant-surgeon on the staff of the army, his commission being dated October 1st, 1866. In January, 1867, he proceeded to Mauritius, where he served till August, 1868, when he was transferred to the Cape of Good Hope. He returned to England in 1872, and in January, 1873, was appointed to the 10th Hussars, with which he proceeded to India. He became surgeon under the Warrant of March, 1873, and was promoted to be surgeon-major in October, 1878. He continued to serve in India till the recent embarkation of troops for service in the Transvaal, where he accompanied his old regiment. He appears to have been severely wounded in the fight at Majuba Hill, and died the following day at Prospect Camp. Surgeon-Major Cornish was specially commended for his services in Afghanistan. He was deservedly much esteemed in his regiment, and in him the medical department has lost an able, zealous, and in every respect trustworthy officer.

JOHN DAY, M.D.

WE regret to announce the death of Dr. John Day, which took place at his residence, Yarra-street, Geelong, Australia, on Jan. 10th last, in his sixty-fifth year. The deceased gentleman's career was one of steady devotion to his profession. He had no brilliant qualities, but he brought to his work great earnestness, plodding perseverance, which never failed under almost overwhelming difficulties, and a fixed determination to succeed in the long run, let the time be what it might. Chemistry in its application to medicine was his favourite study. He did good service to medical jurisprudence by his discovery of the guaiacum blood-test, the value of which was at once recognised by the profession. He was an ardent believer in the therapeutic value of ozone, and contributed valuable papers on the results of his investigations to the Medical Society in Victoria.

It may interest some of our readers to know that Dr. John Day was brother to the late George Edward Day, M.D., F.R.S., formerly Chandos Professor of Medicine in the University of St. Andrews.

A GRATIFYING feature in the report read at the annual meeting of the Hull General Infirmary, held last week, was the announcement that the subscriptions during the past year received through the Working Men's Committee amounted to £609 12*s.* 6*d.*, being an increase of £72 on the sum coming from the same source in 1879. The total amount paid to the funds of the institution by this committee was £7021 3*s.* What has been done in Hull by the industrial classes may, proportionally, be done elsewhere.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 3rd:—

Guillim, Richard Davis Hoyle, Marlborough.
Jennings, Charles Egerton, Malmesbury.
Palmer, Edward Talbot, Southsea.

The following gentleman also on the same day passed the Primary Professional Examination:—

Collins, Edward Treacher, Middlesex Hospital.

UNIVERSITY OF DUBLIN.—The following degrees were conferred last week by the Vice-Chancellor of the University:—

BACHELOR IN SURGERY.—Austin J. Cockle, John Robert Fraser, Thomas Charles Moore, George de Joncourt Patterson, Godfrey E. Reid, John Rynne, George Scriven, Richard C. Studdert.

BACHELOR IN MEDICINE.—John Robt. Fraser, Thomas Chas. Moore, Godfrey E. Reid, John Rynne, James Johnston Robinson.

DOCTOR IN MEDICINE.—William Butler Walsh, John Fitzhenry Woodroffe.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the Court of Examiners on the 23rd ult. and following day the under-mentioned gentleman was admitted a Fellow of the College:—

Henry Fitzgibbon, M.D.

THE Prince of Wales has consented to preside at the forthcoming festival of the Royal Hospital for Children and Women, Waterloo-bridge-road, S.E.

JOHN TUDOR, M.R.C.S. Eng., and ALFRED EMSON, M.R.C.S. Eng., have been appointed Justices of the Peace for the Borough of Dorchester.

ST. MARK'S OPHTHALMIC HOSPITAL, DUBLIN.—At an election last week for a resident surgeon, Mr. Stuart Davis, M.B., was appointed.

MR. G. DENNIS of Chelmsford, a short time before his decease, sent a donation of £50 each to the Infirmary and the Dispensary of the town.

THE LATE DR. PEELE.—At a meeting of the Medical Society of the College of Physicians in Ireland, held last week, a vote of condolence with the bereaved relatives of the late Dr. Peele was adopted.

AT Marlborough-street Police Court recently, two tradesmen were fined £20 and costs for selling as "butter" a kind of fat which, according to the evidence of the analyst, contained 50 per cent. of foreign ingredients.

THE LONDON TEMPERANCE HOSPITAL, situated in the Hampstead-road, was opened for the admission of patients on the 4th inst. The Lord Mayor presided at the ceremony, and a large and influential company assembled on the occasion.

THE Buckingham Board of Guardians have appointed a committee to investigate the mode in which medical relief is administered in the union. The committee is to make special inquiry as to the number and working of village clubs in relation to the medical aid distributed in the parishes.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest*

BEAMISH, W., M.D., L.R.C.S.Ed., has been reappointed Senior Physician to the Cork Fever Hospital.

BOULTON, P., M.D., L.R.C.S.Ed., M.R.C.P.L., has been appointed Physician to Out-patients, Queen Charlotte's Lying-in Hospital.

BUDDS, W. T., L.K.Q.C.P.I., L.R.C.S.I., has been reappointed Physician to Out-patients of the Cork Fever Hospital.

CAMPBELL, W., L.R.C.S.Ed., L.S.A.L., has been appointed one of the Medical Officers of the Hastings Free Dispensary.

COLBORNE, H., M.R.C.S.E., has been appointed one of the Medical Officers of the Hastings Free Dispensary.

CROWE, J. W., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Honorary Physician to the Hartlepool Hospital.

FIELD, J. W., M.R.C.S.E., L.R.C.P.Ed., has been appointed Assistant-Surgeon to the Tewkesbury Hospital, vice C. Penraddock, resigned.

HOSKYN, D. T., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Presteigne District of the Knighton Union.

HOUGHTON, W. B., M.D., M.R.C.P., has been appointed Lecturer on Forensic Medicine at Charing-cross Hospital, vice Irvine, deceased.

JENKINS, J. H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the Sixth District of the Llakeard Union.

JENKINS, T. G., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Second District and the Workhouse of the Ruthin Union, vice Dr. J. R. Jenkins.

JONES, H. M., M.D., F.R.C.S.E., has been reappointed Physician to the Cork Fever Hospital.

KIRBY, T. C., L.K.Q.C.P.I., M.R.C.S.E., has been appointed Consulting Physician to the North-West London Free Dispensary for Sick Children, Bell-street, Edgware-road, W.

MACDONALD, C. R., M.B., C.M., has been appointed Medical Officer for Barkip Coal and Iron Works, Barr Thread Mills, and Barr Colliery, Ayrshire, vice Morison, deceased.

MORISON, J. R., M.B., F.R.C.S., L.R.C.P.Ed., has been appointed Honorary Physician to the Hartlepool Hospital.

SEARLE, G. C., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Brixham District of the Totnes Union.

SHORTER, H. G., M.R.C.S.E., L.S.A.L., has been appointed one of the Medical Officers of the Hastings Free Dispensary.

SOPER, R. W., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Borough of Dartmouth.

THOMPSON, A. H., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer for the Great Ouseburn District and the Workhouse of the Great Ouseburn Union.

WIGMORE, J., M.D., has been appointed Medical Officer for the Sixth (Tiverton-on-Avon) District of the Bath Union, vice Barrett.

Births, Marriages, and Deaths.

BIRTHS.

ALADONE.—On the 27th ult., at Lynton House, Highbury New-park, the wife of Edwin W. Alabone, M.D., of a son.

BATE.—On the 4th inst., at Northumberland Houses, Hackney, the wife of George Paddock Bate, M.D., of a daughter.

BUTLER.—On the 6th inst., at Cromwell-road, South Kensington, the wife of E. R. Butler, M.D., of a daughter.

FARR.—On the 1st inst., at Earl's Court-road, Kensington, the wife of F. Arthur Farr, L.R.C.P.Ed., of a daughter.

GIFFARD.—On the 4th inst., the wife of H. E. Giffard, Esq., M.R.C.S.E., L.S.A.L., of Denham House, Egham, of a son.

JACKSON.—On the 7th inst., at Park-lane, Tottenham, the wife of G. Henry Jackson, Surgeon, of a son.

MCDONALD.—On the 7th inst., at Southall, Middlesex, the wife of George Bruce McDonald, M.D., of a daughter.

MILNE.—On the 2nd inst., at Accrington, the wife of Thomas Milne, M.A., M.D., of a daughter.

MARRIAGES.

BISHOP—BIRD.—On the 8th inst., at St. Lawrence Church, Barton-on-the-Heath, Warwickshire, by the Hon. and Rev. Walter R. Verney, assisted by the Rev. Arthur Nettleship, Rector of the Parish, John Bishop, M.D., F.R.C.S.E., of Edinburgh, to Isabella Lucy, daughter of the late Rev. Edward Bird, Rector of Wyton, Huntingdonshire.

GARDNER—ATHERTON.—On the 1st inst., at St. James's Church, Suffolk-square, Cheltenham, Robert H. Gardner, M.D., Army Medical Staff, to Sophia Philippa, eldest daughter of C. B. Atherton, Esq., of Taynton, Gloucestershire.

REYNOLDS—CRESPIGNY.—On the 8th inst., at St. Margaret's Church, Westminster, by the Very Rev. the Dean of Westminster and the Rector, the Rev. Canon Farrar, D.D., J. Russell Reynolds, M.D., F.R.S., of Grosvenor-street, to Frances, widow of the late Charles John Champion Crespigny, Esq., and eldest daughter of the late William Plunkett, Esq., Barrister-at-law.

TRUMAN—HERRING.—On the 9th inst., at St. James's, Piccadilly, Charles Edwin Truman, Esq., M.R.C.S.E., M.A., to Charlotte Fanny, only child of the late William Herring, Esq., of Putney.

VAN GEYZEL—PALMER.—On the 1st inst., at St. Andrew's Episcopal Church, Aberdeen, John Lawrence Van Geyzel, M.B., C.M., Surgeon in Her Majesty's Indian Medical Service, eldest son of J. A. Van Geyzel, of Colombo, Ceylon, to Catherine Alice, eldest daughter of W. J. Palmer, of Albury-road, Aberdeen.

DEATHS.

DEMPSTER.—On the 27th ult., at Duncannon, near Waterford, James Carroll Dempster, M.D., Deputy Surgeon-General.

EARLE.—On the 28th ult., at Warbeck-road, Shepherd's-bush, Frederic J. Earle, M.D., Surgeon-Major Her Majesty's Bengal Army, aged 53.

FOSTER.—On the 26th ult., at Park-place, Leeds, Edwin Foster, L.R.C.P.L., aged 73.

GODRICH.—On the 7th inst., at Fulham-road, of apoplexy, Francis Godrich, M.R.C.S.E., aged 85.

LANDON.—On the 27th ult., killed in the action on the Majuba Hill, South Africa, Arthur Jermyn Landon, Surgeon, Army Medical Department, second son of the late Francis Newcombe Landon, Esq., of Brentwood, Essex, aged 29.

RICHARDS.—On the 7th inst., Samuel Richards, M.D., of Bedford-square, in his 73rd year.

THORNTON.—On the 4th inst., suddenly, at his residence, Bank Lodge, Scarborough, William Henry Thornton, M.D., F.R.C.S.E., J.P., deeply regretted, aged 55. Friends will kindly accept this intimation.

TRUMAN.—On the 2nd inst., suddenly, at New Basford, Notts, Samuel John Truman, M.R.C.S.E., son of the late Beckit Truman, of Nottingham, aged 35.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, March 14.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor W. H. Flower, "On the Anatomy, Physiology, and Zoology of the Cetacea."

MEDICAL SOCIETY OF LONDON.—8.30 P.M. The President's (Dr. Broadbent) Opening Address.—Dr. T. Stretch Dowse will show a Case of Pseudo-Hypertrophic Paralysis.—Mr. W. Spencer Watson, Two Cases of Unusual Affection of the Nose.—Mr. T. Gilbart Smith will exhibit a Specimen of Embolism in the Kidney in a Case of Heart Disease.

Tuesday, March 15.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Professor Edward A. Schäfer, "On the Blood."

LONDON INSTITUTION.—3 P.M. Professor De Chaumont, "On Sanitary Assurance."

PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following specimens will be shown:—Relations of Disease of Nipple and Areolar Cancer of the Breast; Cystic Degeneration of Breast; Cystic Disease of Kidneys and Liver; Cystic Disease of Ovary from a Fœtus; Aneurisms of Aortic Valve (card); Cancer of Mediastinal Glands and Pleura; Localised Pneumothorax; Thrombus in Pulmonary Artery; Cranium and Brain of Hydrocephalic Adult; Villous Polyp of Bladder; Arrested Development of Upper Limb (card).

Wednesday, March 16.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. MARY'S HOSPITAL.—Operations, 1½ P.M.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.

LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.

GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor W. H. Flower, "On the Anatomy, Physiology, and Zoology of the Cetacea."

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Gulstonian Lectures: Dr. Coupland, "On Anæmia."

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.—7.45 P.M. Communications from Mr. Edward Bartlett, &c.—Council Meeting.

SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND SCIENCES.—Mr. T. P. Bruce Warren, "On the Manufacture of Aërated Waters."

Thursday, March 17.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.

NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

ROYAL INSTITUTION.—3 P.M. Mr. H. H. Statham, "On Ornament."

HARVEIAN SOCIETY.—8½ P.M. Mr. Bryant, "On a Case of Gastrostomy for Cicatricial Stricture of the Œsophagus."—Dr. Gowers, "On the so-called Tendon-reflex Contractions."

Friday, March 18.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor W. H. Flower, "On the Anatomy, Physiology, and Zoology of the Cetacea."

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Gulstonian Lectures: Dr. Coupland, "On Anæmia."

ROYAL INSTITUTION.—8 P.M. Dr. W. H. Stone, "On Musical Pitch."

Saturday, March 19.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Rev. H. R. Haweis, "On American Humorists."

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, March 10th, 1881.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radiation in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 4	29·56	S.E.	39	38	..	49	35	0·15	Raining
„ 5	29·34	S.	48	47	..	58	36	0·02	Overcast
„ 6	29·33	S.W.	50	49	..	58	45	0·50	Cloudy
„ 7	29·31	S.W.	55	53	..	60	47	0·04	Cloudy
„ 8	29·63	W.	47	46	..	52	45	0·08	Overcast
„ 9	29·95	W.	49	48	..	54	40	0·10	Raining
„ 10	30·01	W.	33	50	..	60	46	..	Fine

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Local papers containing reports or news-paragraphs should be marked.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

THE INDEX MEDICUS.

THIS is a monthly classified record of the current medical literature, in all languages, of the world. It is published in New York, by F. Leypoldt, who, in his announcement, states that whether it shall be continued after the completion of this, its second year, rests with the medical profession to decide. As a classified universal work of reference for medicine and its allied sciences, this is by far the most complete and exhaustive index ever issued. It has not alone the merit of giving the titles of all books by all authors, but, further, it gives the titles of the more important contributions to periodical medical literature in all languages. Many a busy provincial or colonial practitioner would find a copy of it useful to enable him to select suitable books for any special subject which might interest him.

Delta.—A certificate under the Vaccination Acts must be signed by a duly registered medical practitioner. Complaint should be made to the Local Government Board.

"OPENING OF MUSEUMS AND PICTURE GALLERIES ON SUNDAYS."

To the Editor of THE LANCET.

SIR,—In your issue of this date you notice with approval the signature by medical men of an address to the Premier in favour of opening the British Museum on Sundays. If you can spare space, will you allow me to point out the great boon to students that the opening of such institutions would be? Few will doubt that the better the general education a medical student gets, the more successful as a general practitioner and the more useful as a member of our faculty is he likely to prove subsequently. I need only mention how a student who fairly attends to his work has his time taken up to show that he has not time on week days—during the sessions at least—to visit museums, picture galleries, &c. In the first part of his course, lectures, demonstrations, and dissections are sufficient to occupy most of his daylight hours, leaving him his "studying" to do during the evenings. During the subsequent stages of his studentship ample occupation for working days will be found in ward work with the house officers in the morning, attendance in the out-patient rooms and sundry special departments at mid-day, and "going round" with the visiting officers in the afternoon, together with lectures, &c., at odd times as they can be made to fit in, and private study at night.

May I suggest, then, that an address to the Premier in favour of a "Rational Sabbath" from students at the London hospitals would not be inappropriate. Having but lately arrived in England, I am scarcely suited for organising this, but trust that some energetic friend of an unpopular, but not wholly undeserving, section of the community may be induced to act.

I am, Sir, yours obediently,

St. Thomas's Hospital, March 5th, 1881. A STUDENT.

"THE RIGHT HON. LYON PLAYFAIR."

THE following choice *morceau*, from the February number of *Gaillard's Medical Journal*, will be interesting to cis-Atlantic medical readers:—

"Such is the manner in which the London *Times* alludes to Dr. Playfair, the distinguished obstetrician, who in the existing debates, recently occurring in the British House of Commons, was made deputy speaker of that body. The author of Playfair's midwifery is as remarkable for his humour as he is for his medical erudition. It seems that in the debate Mr. Millbank (a member) termed Mr. Biggar (also a member) 'a scoundrel.' The speaker, Dr. Playfair, being appealed to to preserve order, ruled that 'it was the duty of Mr. Millbank to apologise to the House for calling Mr. Biggar a scoundrel, but not to Mr. Biggar.' Mr. Millbank then made his apology 'in accordance with the mode prescribed by the speaker.' It was a delivery in three stages."

Dr. W. Alexander.—The paper will appear in an early number.

Obstet.—We think such services should be freely rendered by one medical man to another, whether he be principal or assistant. We are all more or less dependent on each other's good offices.

An Old Subscriber.—There can be no doubt as to the character of the handbill being most unprofessional, but we must decline to be the medium of further publicity of such an announcement.

Mr. Baber (Brighton).—As early as possible.

Dr. A. V. Ford will find the matter commented on in another column.

Dr. Wynn Williams' letter will appear in our next.

A Disgusted One complains strongly, but not too strongly, of unlicensed practitioners. He will see that we elsewhere direct attention to the subject.

INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—As a constant reader of THE LANCET for the past year, I have felt very much distressed by the hostile tone adopted towards the Indian Medical Service in their struggle for the redress of some of their grievances. I had confidently expected sympathy and assistance from the leading professional organ. May I ask you to publish "a round unvarnished tale" of the first two years' experience of a young surgeon, and leave it to be decided by any impartial reader, acquainted with the promises made to us before entering the service, whether we are not most unjustly treated.

On arriving in India I was at once sent to Afghanistan, where I served for about five months in cholera and field hospitals on "unemployed pay," 236 rupees per month. I then got medical charge of a regiment whose surgeon was sent sick to England, and got—not full pay, 450 rupees—but 336 rupees per month, though about 70 per cent. of the men were on the sick-list when I took charge. I remained in charge of this regiment while it was on service and near the frontier (about a year), but when it was sent down to a comfortable cantonment, and the cold weather came on, I was relieved from the charge and ordered to "do duty" with the regiment on unemployed pay. I have been thus engaged for the past two months, and will probably continue so till the stifling heat of the plains obliges some of the less robust of my brother surgeons to take refuge in the hills or in England. Though "unemployed," I have, in addition to regimental duty, garrison inspection work, and in my turn have to attend brigade parades and field exercises mounted.

There is not a single combatant officer in the Indian army serving with native troops whose pay is anything near so small as mine. A subaltern in the regiment of eighteen months' total service in England and India gets 325 rupees, and most of them considerably more. It is, therefore, idle to think that we can be satisfied by the useless grant of captain's relative rank when we get considerably less pay than the youngest subaltern serving with us as probationer for the staff corps. Government takes advantage of our powerlessness, and it is "the most unkindest cut of all" when THE LANCET exerts its influence against us, and hints that we are querulous grumblers.

When I apply some of the principles laid down in the article on "The Commercial Aspects of Medicine," which appeared in THE LANCET of Jan. 1st, to my case, my professional pride is not flattered by the reflection that Government values the services of a subaltern of eighteen months' service at a higher rate than it does those of an

India, Feb. 6th, 1881. M.B., B.A.

*** Our correspondent must have read THE LANCET for the past year to little purpose if he has come to the conclusion that it has adopted a hostile tone towards the Indian Service. We have endeavoured to bring clearly before the authorities and the profession the grievances under which it labours, and have urged the adoption of measures for their removal. Some of these have already been brought into operation, and we trust the rest will soon follow. But we have steadily refused to recognise the claim put forward by some of the advocates of the Indian Service, that they should retain half of the military administrative appointments, and receive also all those civil ones which were created to compensate them for the loss of the others. We have, in fact, objected to a great addition being made to the prizes of the Indian at the expense of the British Medical Service. If our correspondent is still "very much distressed" by his view of our conduct, we recommend him to re-peruse our leader of October 2nd.—ED. L.

B. H. H.—1. It would be the medical officer of health's duty to advise the managers and master or mistress of the school of the course they should take under the circumstances.—2. No; itch is not included under "dangerous infectious diseases."—3. No.

Mr. J. Lockhart Gibson.—We must decline to comply with our correspondent's request.

THE FULHAM SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR,—Mr. Edmund Tattersall sends the general press particulars inculpating the Fulham Small-pox Hospital as a focus for the dissemination of small-pox over the immediate neighbourhood. Kindly allow me to add the following corroborative statistics drawn from my own district (Brompton), which does not form quite half the "entourage" of the hospital.

During the last three years ending Dec. 31st, 1880, 213 pauper cases were sent into the hospital from my district, of which 124 came from within the quarter-mile radius directly adjoining the hospital (which, be it remarked, is not entirely covered with dwellings, quite two-thirds being open ground), 55 from between the quarter and half-mile radius, and the remaining 34 being scattered over the remainder of the district, which extends to a distance of two miles from the hospital.

During one of the outbreaks in my district cases were removed within a period of three days from fifteen different thoroughly well built and respectable streets. This remarkable simultaneity of outbreak undoubtedly implies a simultaneity of action from some great infecting centre, which cannot be explained otherwise than by the action of the Fulham Small-pox Hospital.—I am, Sir, your obedient servant,

FRANCIS GODRICH,
Medical Officer, Brompton District, South Kensington, S.W.

Fulham-road, March 4th, 1881.

*** We regret to announce the death of the writer of the above letter, the oldest medical practitioner in Chelsea and officer of health for the parish. He attended the meeting at the Vestry Hall on Monday last, the 7th inst., against the Fulham Small-pox Hospital. He made a short speech, detailing statistics extending over many years, and showing that the hospital was a centre of contagion. A medical speaker having in the course of his reply impugned the statistics adduced by Dr. Godrich, the deceased gentleman became very excited, and was attacked with apoplexy. He did not recover consciousness, and died the following day, Tuesday, March 8th, at 5 P.M.—ED. L.

TREATMENT OF PLEURISY AND EMPYEMA.

To the Editor of THE LANCET.

SIR,—I have read with pleasure in THE LANCET of Feb. 26th and March 5th the excellent article of Dr. Morgan on the "Treatment of Pleurisy and Empyema," not only on account of the scientific manner in which he treats his cases, but I have personally had an opportunity of observing some of his successful results. Yet it has always struck me that the method of re-expanding the lung by directing the patient to inhale compressed air from "Seigel's pneumatic apparatus" must constitute an important factor in the etiology of vesicular emphysema, when we remember that there is already a tendency to the production of what has been termed by some writers "vicarious emphysema." When the lung being bound down by pleuritic adhesions, and therefore rendered partially or entirely incapable of expansion, the air which ought to enter these unused portions passes into other parts and unduly stretches their vesicles.

I am, Sir, yours respectfully,

Wigan, March 6th, 1881. W. MITCHELL ROOCROFT, M.R.C.S.

Subscriber.—It may be obtained through Trübner and Co., Ludgate-hill.

Adviser.—We do not prescribe.

Spes.—Replies to our correspondent's numerous and elaborate inquiries would occupy more space than we have at our disposal for such a purpose.

SUPRA-PUBIC CYSTOTOMY.

To the Editor of THE LANCET.

SIR,—When THE LANCET gives the high authority of its commendation to the consideration of an operation, it is sufficient evidence of its value, and necessarily commands the respectful attention and notice of the profession which it represents and whose opinions it guides.

I will make a reference, with your kind permission, to only one of the conditions you mention under which the "high operation" has been recommended—namely, when the stone is large and a hard one. Surely, Sir, when the stone is a large one, the opening required for its removal must, from its extent, prove a very serious obstacle, and I should like to know what means could be adopted to overcome this difficulty, at the same time that a speedy operation could be ensured.

Physiologists give us examples to show that nature will make bodies pass through openings smaller than themselves to accomplish her purposes without injurious results. But this is an accomplishment that modern surgery, with all its brilliant triumphs, has never effected, nor of course is likely to effect, at least not as regards the removal of a large hard calculus from the upper part of the bladder, and where indeed every line of space is important, and every degree of movement may mean disappointment and destruction.

I am, Sir, your obedient servant,

Feb. 24th, 1881. MEDICUS.

"THE WELBECK POISONINGS."

To the Editor of THE LANCET.

SIR,—Since reading the account of Dr. Ballard's investigations into the cause of the epidemic in connexion with the Welbeck sale, in which he says that the investigation "showed the existence of a species of bacillus, experiments with which, made upon animals, produced pneumonia," it has occurred to me to suggest, through the medium of your valuable journal, that the morbid matter mentioned is the blood poison belonging to whooping-cough.

On September 2nd, 1879, a very intelligent man called upon me, and, in the course of conversation, told me his pig had died two or three days before. I asked him the cause of death, as my attention has been given to investigating whooping-cough for the last ten years. He ascribed it to typhoid fever, and, on my asking for symptoms, said it began with diarrhœa, refusal of food, and slight fever; then head symptoms appeared, the animal when lying down rolling its head from side to side, and dashing it on the ground. I asked him if there was any cough. He said "Yes," its cough was so violent that it seemed to fall down with it; there was also dyspnœa, and finally it died in convulsions. I was sorry that I had not seen the pig both before and after death, as the symptoms plainly indicated congestion of brain and lungs (pneumonia), both due, in my opinion, to the poison of whooping-cough, and were such as I had seen in several patients. Had the pig belonged to a drove the others would most likely have suffered in the same way, or, if stronger, the poison might have remained dormant until some change of air, place, or other circumstances had developed it, and persons eating their flesh might have suffered.

On August 20th, 1880, a gentleman came to the house of a patient to consult me. He had been at the Welbeck sale, had eaten some of the ham, and suffered for some days after from diarrhœa and stomach irritation, but, to use his own words, "he had not felt well since that time." I examined him carefully, and found the following symptoms:—A feeling of general malaise, increasing towards night; sleeplessness, giddiness on looking either up or down; a tendency in walking suddenly to run off to one side; slight pulmonary irritation, which he described as being rather asthmatical. All these symptoms are found in persons who have been exposed to the whooping-cough poison. I prescribed for him with that opinion, and did not see him again till Jan. 2nd, when he told me that the treatment had quite removed his symptoms, and that he had been quite well.

From these and many other cases I have come to the conclusion that whooping-cough is a disease depending upon a peculiar blood poison, which is exhaled and absorbed by the bronchial and pulmonary mucous membrane, and not a mere spasmodic cough belonging to infancy and childhood, or that it may be taken into the system by eating the flesh of any animal infected with it. That it may lie dormant in the system even for months, and that, when developed, assumes many forms—viz., pneumonia, often called congestion of lungs; meningitis, cerebro-spinal meningitis, or typhoid pneumonia, as it has been called; low remittent fever, with exacerbations every night; inflammation of joints, very much resembling rheumatic fever, and moving quickly from one joint to another; congestion of uterus and ovaries, the ovaries particularly; also what is generally called winter-cough, and a peculiarly rapid form of consumption. In animals I believe that the disease generally called pleuro-pneumonia is due to the same blood poison, which explains its being so contagious, and also it may cause what has been called typhoid fever in pigs. These facts can be supported with cases.

I have not Dr. Ballard's address, or would have written to ask him what form of pneumonia was produced in the animals experimented upon, the pneumonia of whooping-cough being catarrhal or inflammation of the pulmonary mucous membrane, and not of the substance of the lung.

With an apology for trespassing so much on your valuable space, I remain, yours very truly,

JOHN COLSTON.

New Whittington, March 7th, 1881.

X. Z.—In reply to our correspondent's complaint, it may fairly be said that the preliminary examination hitherto conducted by the Royal College of Surgeons was instituted for candidates for its own diplomas, and not for the convenience of persons seeking to obtain qualifications from other examining bodies.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Alfred Hill, Birmingham; Dr. Fairweather, Pocklington; Mr. Cookson, Teignmouth; Dr. Fergus, Marlboro' College; Mr. Graveley, Chalfey; Mr. Gould, Hatherleigh; Mr. Moxhay, Reading; Dr. Chauncy Puzey, Liverpool; Dr. Liveing, London; Dr. Kebbell, Brighton; Mr. Goslin, London; Dr. Ramskill, London; Dr. Matthews Duncan, London; Mr. E. L. Jacob, London; Dr. Yarrow, London; Dr. O. Sturges, London; Mr. D. H. Cullimore, London; Mr. Young, Hounslow; Mr. R. T. Cæsar, Shirley; Mr. Bland, London; Mr. W. E. Rendle; Dr. Armstrong, Newcastle-on-Tyne; Dr. Kilner, Bury St. Edmunds; Mr. Patullo; Dr. Creighton, Cambridge; Mr. Ashmead, Brierley-hill; Dr. Morris, Maryland; Mr. Pratt, Newtowns; Mr. Dawson Burns; Mr. Shirtliff, Kingston-on-Thames; Dr. Fisher, Chelsea; Mr. Flinn, Brownhills; Messrs. Arnold and Sons; Dr. Kirkman, St. Leonards; Mr. MacCormac, Lindley; Mr. Jenner, Baldock; Mr. Roscroft, Wigan; Mr. Godrich, Fulham; Mr. Lewers, London; Mr. Lawton, Poole; Dr. C. R. Drysdale, London; Dr. Meredith; Mr. Rolandson; Dr. Neale, Hampstead; Dr. Yeld, Sunderland; Mr. Dean, Halifax; Mr. Knight, Whitehaven; Dr. Taylor, Woodstock; Mr. Wheeler, Manchester; Mr. Baker, New York; Messrs. Richardson and Co., Leicester; Mr. Atkey, Chichester; Mr. Wyer, Kimberley; Mr. Brown, Alexandria; Mr. Bridgman, Barnstaple; Messrs. Leader and Son, Sheffield; Mr. J. L. Milton; Mr. Coleman, Cardiff; Mr. A. V. Ford, Portsmouth; Dr. F. C. Turner; Mr. H. Finch; Dr. J. L. Gibson, Edinburgh; Dr. Low, Helmsley; Mr. W. P. Thornton; Mr. S. Gamgee, Birmingham; Mr. Stathers, Burton-on-Trent; Mr. Daniel Grant, London; Mr. G. M. Evans, Bridport; Mr. Roberts, Liverpool; Dr. Fenton, Bakewell; Surgeon-General Gordon; R. W. E.; Spes; Editor of the *Gardeners' Magazine*; Obstet; Delta; D. M.; X.; F.R.C.S. Ed., M.R.C.S. Eng.; R. M. O.; A. B., Portsdown; A Total Abstainer; W. T.; Surgeon, Llanelly; F. P. F.; &c., &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Gent, Clevedon; Mr. Gibson, St. George's; Mr. Price, London; Mr. Lowe, Lichfield; Mr. Warren, Castle Gresley; Mr. Jeffries, Chesterfield; Dr. Moinet, Edinburgh; Mr. Crosswell, Wolverhampton; Dr. Lush, Salisbury; Mr. Coulston, New Whittington; Mr. Fox, Corby; Messrs. Stocks and Crossman, Wandsworth; Dr. Milne, Accrington; Mr. Tacey, Bradford; Mr. Field, Taunton; Mrs. Ludlow; Dr. Jones, Newbury, U.S.A.; Dr. Waddle; Mr. Ilos, Sheepscombe; Mr. Finch, Colchester; Messrs. Best and Atkinson, Ashford; Mr. Gifford, Egham; Mr. Willey, Birmingham; Mrs. Erson; Dr. Stewart, Nottingham; Mr. Thornton, Scarborough; Dr. Cook, Manningtree; Dr. Foote, Rotherham; Mr. Banks, Cheltenham; Miss Woodward, Cole Orton; Mr. Patel, Brixton; Dr. Smith, Dumfries; Messrs. Ryott and Co., Newbury; Dr. Moore, Middleton; Mr. Macpherson, Middlesboro'; N., Runcorn; Alpha R.; Delta, Longsight; M. D. Y., Stoke Newington; Medicus, Birchington-on-Sea; A., Sheffield; Yeldon, Birkenhead; K. C., Whitstable; M. E.; Medicus, St. Albans; F. M.; A. B. C.; Medicus, Stepney; M.D., London; Registrar, Bath; Alpha, Cahirtown; Beta, Windermere; Apothecary; X. Y. Z., Basingstoke; M.R.C.S.; W.; A. G., Walthamstow; X. Y. Z.; J. T., Grimsby; X. Y. Z., London; W. R. B.; T. M.; Immediate; A. B., London; W. B., Selby; M. B., Horncastle; M. O. H.; Veritas, London; &c., &c.

Education, Wimbledon Courier, Ocean Passengers' Gazette, Marylebone Mercury, Portsmouth Times, Exeter and Plymouth Gazette, Food and Health, Pocklington Weekly News, Pontefract Telegraph, Cape Times, Cambridgeshire Times, &c., have been received.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year.....£1 12 6 | Six Months £0 16 3

TO CHINA AND INDIA ..... One Year, 1 16 10

TO THE COLONIES AND UNITED STATES .. Ditto, 1 14 8

Post Office Orders should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable at the Post Office, Charing-cross.

Notices of Births, Marriages, and Deaths are charged five shillings.

Cheques to be crossed "London and Westminster Bank."

ADVERTISING.

Books and Publications	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
(Seven lines, each averaging ten words, or seventy words in all).	
Every additional Line	0 0 6
Front Page .. .. per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An entire Page	5 5 0

The above Scale of Charges is arranged upon the basis of the classification adopted in the Index.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements (on page 2), which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Sons' Railway Bookstalls throughout the United Kingdom, and all other Advertising Agents.

Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 67, Rue Caumartin, Paris.